



Administrative Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
 - English
 - Alternative Language (Spanish)
 2. First Notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
 - English
 - Alternative Language (Spanish)
 3. Application materials
-



Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

1. Resumen en lenguaje sencillo (PLS, por sus siglas en inglés) de la actividad propuesta
 - Inglés
 - Idioma alternativo (español)
2. Primer aviso (NORI, por sus siglas en inglés)
 - Inglés
 - Idioma alternativo (español)
3. Solicitud original

**ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS
INDUSTRIAL WASTEWATER/STORMWATER**

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

Equistar Chemicals, LP (CN600124705) operates the Equistar Chemicals Channelview Complex (RN100542281), which manufactures bulk and commodity organic chemicals and thermoplastic resins. The plant is located at 8280 Sheldon Road, Channelview, Harris County, Texas 77530.

This application is for renewal of TPDES permit no. WQ0000391000. Outfall 001 is authorized to discharge treated process wastewater, utility wastewater, treated domestic wastewater, and stormwater at an average flow not to exceed 8.9 million gallons per day. Outfalls 002, 003, 003A, 003B, 003C, 004, and 005 are authorized to discharge stormwater, utility wastewaters, and water from spill cleanups; flows are intermittent and variable. Outfall 006 is authorized to discharge stormwater; flow is intermittent and variable. The outfalls discharge into drainage ditches and channels, then into San Jacinto River Tidal.

Wastewater treatment processes for Outfall 001 include separation processes, neutralization/equalization, and biologic treatment. Pollutants expected in outfall discharges include suspended and dissolved solids, oil and grease, and metals. Other potential pollutants that may be in the discharges are included in Worksheet 2 of the TPDES application.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP**AGUAS RESIDUALES INDUSTRIALES /AGUAS PLUVIALES**

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

Equistar Chemicals, LP (CN600124705) opera el complejo Equistar Chemicals Channelview (RN100542281), que fabrica productos químicos orgánicos a granel y básicos y resinas termoplásticas. La planta está ubicada en 8280 Sheldon Road, Channelview, Condado de Harris, Texas 77530.

Esta solicitud es para la renovación del permiso TPDES no. WQ0000391000. El Outfall 001 está autorizado para descargar aguas residuales tratadas de procesos, aguas residuales de servicios públicos, aguas residuales domésticas tratadas y aguas pluviales con un caudal medio que no supere los 8.9 millones de galones al día. Los Outfalls 002, 003, 003A, 003B, 003C, 004 y 005 están autorizados para descargar aguas pluviales, aguas residuales de servicios públicos y agua procedente de la limpieza de derrames; los caudales son intermitentes y variables. El Outfall 006 está autorizado para descargar aguas pluviales; el caudal es intermitente y variable. Los Outfalls se descargan en zanjas y canales de drenaje, y luego en el río San Jacinto Tidal.

Los procesos de tratamiento de aguas residuales para el Outfall 001 incluyen procesos de separación, neutralización/ecualización y tratamiento biológico. Los contaminantes que se esperan en los vertidos incluyen sólidos en suspensión y disueltos, aceites y grasas, y metales. Otros contaminantes potenciales que pueden estar presentes en las descargas se incluyen en la Worksheet 2 de la solicitud TPDES.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT RENEWAL

PERMIT NO. WQ0000391000

APPLICATION. Equistar Chemicals, LP, P.O. Box 777, Channelview, Texas 77530, which owns a bulk and commodity chemicals and thermoplastics resins production facility, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0000391000 (EPA I.D. No. TX0003531) to authorize the discharge of treated wastewater and stormwater at a volume not to exceed a daily average flow of 8,900,000 gallons per day via Outfall 001; the discharge of wastewater and stormwater at an intermittent and flow-variable volume via Outfalls 002, 003, 004, and 005; and stormwater at an intermittent and flow-variable volume via Outfalls 006 and 007. The facility is located at 8280 Sheldon Road, near Channelview, in Harris County, Texas 77530. The discharge route is from the plant site via Outfalls 001 and 004 to an unnamed drainage ditch, thence to Wallisville Gully, thence to San Jacinto River Tidal; via Outfall 002 to Wallisville Gully, thence to San Jacinto River Tidal; via Outfall 005 directly to the San Jacinto River Tidal; via Outfall 003 to an unnamed drainage ditch, thence to a Harris County Flood Control District (HCFCD) ditch, thence to the San Jacinto River Tidal; and via Outfall 006 to a HCFCD ditch, thence to San Jacinto River Tidal. TCEQ received this application on September 25, 2025. The permit application will be available for viewing and copying at North Channel Branch Library, 15741 Wallisville Road, Houston, in Harris County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.118055,29.832777&level=18>

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

El aviso de idioma alternativo en español está disponible en

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-**

wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application.** If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.** TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief

Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted either electronically at <https://www14.tceq.texas.gov/epic/eComment/>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Equistar Chemicals, LP at the address stated above or by calling Mr. Joseph A. Reza, Senior Environmental Engineer, at 281-457-8032.

Issuance Date: October 22, 2025

Comisión de Calidad Ambiental del Estado de Texas



AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0000391000

SOLICITUD. Equistar Chemicals, LP, P.O. Box 777, Channelview, Texas 77530, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0000391000 (EPA I.D. No. TX0003531 del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas y aguas pluviales en un volumen que no sobrepasa un flujo promedio diario de 8,900,000 galones por día vía Desagüe 001; la descarga de aguas residuales y pluviales en un volumen intermitente y variable de flujo vía Desagües 002, 003, 004, y 005; y la descarga de aguas pluviales en un volumen intermitente y variable de flujo vía Desagües 006 y 007. La planta está ubicada en 8280 Sheldon Road, cerca de Channelview, en el Condado de Harris, Texas 77530. La ruta de descarga es del sitio de la planta vía Desagües 001 y 004 a una zanja de drenaje sin nombre, de allí a Wallisville Gully, de allí a Marea del río San Jacinto vía Desagües 002 hasta Wallisville Gully, de allí a Marea del río San Jacinto; vía Desagüe 005 directamente a Marea del río San Jacinto; vía Desagüe 003 hasta una zanja de drenaje sin nombre, de allí a una zanja de Distrito de Control de Inundaciones del Condado de Harris (HCFCD, por sus siglas en inglés), de allí a Marea del río San Jacinto; y vía Desagüe 006 hasta una zanja de HCFCD, de allí a Marea del río San Jacinto. La TCEQ recibió esta solicitud el 25 de septiembre de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Pública, sucursal de North Channel, 15741 Wallisville Road, Houston, en el Condado de Harris, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.118055,29.832777&level=18>

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión**

preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión.

La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. **Si se concede una audiencia, el tema de la audiencia estará**

limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos del solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para detalles sobre el estado de la solicitud, favor de visitar la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Para buscar en la base de datos, utilizar el número de permiso para esta solicitud que aparece en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía <http://www14.tceq.texas.gov/epic/eComment/> o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Equistar Chemicals, LP a la dirección indicada arriba o llamando a Sr. Joseph A. Reza, Ingeniero Ambiental Senior, al 281-457-8032.

Fecha de emisión: 22 de octubre de 2025

Brooke T. Paup, *Chairwoman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 25, 2025

Re: Confirmation of Submission of the Renewal without changes for Industrial Wastewater Authorization.

Dear Applicant:

This is an acknowledgement that you have successfully completed Renewal without changes for the Industrial Wastewater authorization.

ER Account Number: ER053903
Application Reference Number: 820043
Authorization Number: WQ0000391000
Site Name: Equistar Chemicals Channelview Complex
Regulated Entity: RN100542281 - Equistar Chemicals Channelview Complex
Customer(s): CN600124705 - Equistar Chemicals, LP

Please be aware that TCEQ staff may contact your designated contact for any additional information.

If you have any questions, you may contact the Applications Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by telephone at (512) 239-4671.

Sincerely,
Applications Review and Processing Team
Water Quality Division

Texas Commission on Environmental Quality

Update Domestic or Industrial Individual Permit

WQ0000391000

Site Information (Regulated Entity)

What is the name of the site to be authorized?	EQUISTAR CHEMICALS CHANNELVIEW COMPLEX
Does the site have a physical address?	Yes
Physical Address	
Number and Street	8280 SHELDON RD
City	CHANNELVIEW
State	TX
ZIP	77530
County	HARRIS
Latitude (N) (##.#####)	29.832777
Longitude (W) (-###.#####)	-95.118055
Primary SIC Code	2869
Secondary SIC Code	2813,2821,2822
Primary NAICS Code	325199
Secondary NAICS Code	
Regulated Entity Site Information	
What is the Regulated Entity's Number (RN)?	RN100542281
What is the name of the Regulated Entity (RE)?	EQUISTAR CHEMICALS CHANNELVIEW COMPLEX
Does the RE site have a physical address?	Yes
Physical Address	
Number and Street	8280 SHELDON RD
City	CHANNELVIEW
State	TX
ZIP	77530
County	HARRIS
Latitude (N) (##.#####)	29.831111
Longitude (W) (-###.#####)	-95.125555
Facility NAICS Code	
What is the primary business of this entity?	INDUSTRIAL ORGANIC CHEMICAL MANUFACTURING

Equista-Customer (Applicant) Information (Owner)

How is this applicant associated with this site?	Owner
What is the applicant's Customer Number (CN)?	CN600124705
Type of Customer	Partnership
Full legal name of the applicant:	
Legal Name	Equistar Chemicals, LP
Texas SOS Filing Number	10258111
Federal Tax ID	760550481
State Franchise Tax ID	17605504814

State Sales Tax ID	
Local Tax ID	
DUNS Number	969557263
Number of Employees	501+
Independently Owned and Operated?	No
I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.	Yes
Responsible Authority Contact	
Organization Name	Equistar Chemicals, LP
Prefix	MR
First	GREGORY
Middle	
Last	CANNON
Suffix	
Credentials	
Title	DIRECTOR HSE CHANNELVIEW
Responsible Authority Mailing Address	
Enter new address or copy one from list:	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
Routing (such as Mail Code, Dept., or Attn:)	
City	CHANNELVIEW
State	TX
ZIP	77530
Phone (###-###-####)	2818625014
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	GREGORY.CANNON@LYONDELLBAS ELL.COM

Billing Contact

Responsible contact for receiving billing statements:	
Select the permittee that is responsible for payment of the annual fee.	
Organization Name	CN600124705, Equistar Chemicals, LP
Prefix	EQUISTAR CHEMICALS LP
First	MR
Middle	JOSEPH
Last	A
Suffix	REZA
Credentials	
Title	SR ENVIRONMENTAL ENGINEER
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
Routing (such as Mail Code, Dept., or Attn:)	
City	CHANNELVIEW

State	TX
ZIP	77530
Phone (###-###-####)	2814578032
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	JOSEPH.REZA@LYONDELLBASELL.COM

Application Contact

Person TCEQ should contact for questions about this application:

Same as another contact?

Organization Name	EQUISTAR CHEMICALS LP
Prefix	MR
First	JOSEPH
Middle	A
Last	REZA
Suffix	
Credentials	
Title	SR ENVIRONMENTAL ENGINEER

Enter new address or copy one from list:

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
Routing (such as Mail Code, Dept., or Attn:)	
City	CHANNELVIEW
State	TX
ZIP	77530
Phone (###-###-####)	2814578032
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	JOSEPH.REZA@LYONDELLBASELL.COM

Technical Contact

Person TCEQ should contact for questions about this application:

Same as another contact?

Organization Name	EQUISTAR CHEMICALS LP
Prefix	MR
First	JOSEPH
Middle	A
Last	REZA
Suffix	
Credentials	
Title	SR ENVIRONMENTAL ENGINEER

Enter new address or copy one from list:

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
Routing (such as Mail Code, Dept., or Attn:)	
City	CHANNELVIEW
State	TX
ZIP	77530
Phone (###-###-####)	2814578032
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	JOSEPH.REZA@LYONDELLBASELL.COM

DMR Contact

Person responsible for submitting Discharge Monitoring Report Forms:

Same as another contact?	Technical Contact
Organization Name	EQUISTAR CHEMICALS LP
Prefix	MR
First	JOSEPH
Middle	A
Last	REZA
Suffix	
Credentials	
Title	SR ENVIRONMENTAL ENGINEER

Enter new address or copy one from list:

Mailing Address:

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
Routing (such as Mail Code, Dept., or Attn:)	
City	CHANNELVIEW
State	TX
ZIP	77530
Phone (###-###-####)	2814578032
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	JOSEPH.REZA@LYONDELLBASELL.COM

Section 1# Permit Contact

Permit Contact#: 1

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	Technical Contact
2) Organization Name	EQUISTAR CHEMICALS LP
3) Prefix	MR

4) First	JOSEPH
5) Middle	A
6) Last	REZA
7) Suffix	
8) Credentials	
9) Title	SR ENVIRONMENTAL ENGINEER
Mailing Address	
10) Enter new address or copy one from list	
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	CHANNELVIEW
11.4) State	TX
11.5) ZIP	77530
12) Phone (###-###-####)	2814578032
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	JOSEPH.REZA@LYONDELLBASELL.COM

Section 2# Permit Contact

Permit Contact#: 2

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	
2) Organization Name	EQUISTAR CHEMICALS LP
3) Prefix	MS
4) First	REBECCA
5) Middle	
6) Last	HASSAN
7) Suffix	
8) Credentials	
9) Title	TEAM LEAD ENVIRONMENTAL
Mailing Address	
10) Enter new address or copy one from list	
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 777
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	CHANNELVIEW
11.4) State	TX
11.5) ZIP	77530
12) Phone (###-###-####)	2814528209
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	REBECCA.HASSAN@LYONDELLBASELL.COM

Owner Information

Owner of Treatment Facility

1) Prefix	
2) First and Last Name	
3) Organization Name	EQUISTAR CHEMICALS LP
4) Mailing Address	PO BOX 777
5) City	CHANNELVIEW
6) State	TX
7) Zip Code	77530
8) Phone (###-###-####)	2818625026
9) Extension	
10) Email	ANTHONY.WOOD@LYONDELLBASEL L.COM
11) What is ownership of the treatment facility?	Private

Owner of Land (where treatment facility is or will be)

12) Prefix	
13) First and Last Name	
14) Organization Name	EQUISTAR CHEMICALS LP
15) Mailing Address	PO BOX 777
16) City	CHANNELVIEW
17) State	TX
18) Zip Code	77530
19) Phone (###-###-####)	2818625026
20) Extension	
21) Email	ANTHONY.WOOD@LYONDELLBASEL L.COM
22) Is the landowner the same person as the facility owner or co-applicant?	Yes

General Information Renewal-Amendment

1) Current authorization expiration date:	03/25/2026
2) Current Facility operational status:	Active
3) Is the facility located on or does the treated effluent cross American Indian Land?	No
4) What is the application type that you are seeking?	Renewal without changes
5) Current Authorization type:	Industrial Wastewater
5.1) What is your EPA facility classification?	Major
5.1.1) Select the applicable fee	Renewal - \$2,015
6) What is the classification for your authorization?	TPDES
6.1) What is the EPA Identification Number?	TX0003531
6.2) Is the wastewater treatment facility location in the existing permit accurate?	Yes
6.3) Are the point(s) of discharge and the discharge route(s) in the existing permit correct?	Yes
6.4) City nearest the outfall(s):	CHANNELVIEW
6.5) County where the outfalls are located:	HARRIS
6.6) Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?	Yes
6.6.1) What is your right-of-way authorization status?	Authorization Granted

6.7) Is the daily average discharge at your facility of 5 MGD or more?
6.7.1) Provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge:
7) Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

Yes
BRAZORIA|CHAMBERS|GALVESTON|
HARRIS|JEFFERSON
No

Public Notice Information

Individual Publishing the Notices

1) Prefix	MR
2) First and Last Name	JOSEPH A REZA
3) Credential	
4) Title	SR ENVIRONMENTAL ENGINEER
5) Organization Name	EQUISTAR CHEMICALS LP
6) Mailing Address	PO BOX 777
7) Address Line 2	
8) City	CHANNELVIEW
9) State	TX
10) Zip Code	77530
11) Phone (###-###-####)	2814578032
12) Extension	
13) Fax (###-###-####)	
14) Email	JOSEPH.REZA@LYONDELLBASELL.COM

Contact person to be listed in the Notices

15) Prefix	MR
16) First and Last Name	JOSEPH A REZA
17) Credential	
18) Title	SR ENVIRONMENTAL ENGINEER
19) Organization Name	EQUISTAR CHEMICALS LP
20) Phone (###-###-####)	2814578032
21) Fax (###-###-####)	
22) Email	JOSEPH.REZA@LYONDELLBASELL.COM

Bilingual Notice Requirements

23) Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?	Yes
23.1) Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?	Yes
23.2) Do the students at these schools attend a bilingual education program at another location?	No
23.3) Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC 89.1205(g)?	No
23.4) Which language is required by the bilingual program?	SPANISH

Section 1# Public Viewing Information

County#: 1

1) County	HARRIS

2) Public building name	NORTH CHANNEL HARRIS COUNTY LIBRARY
3) Location within the building	REFERENCE DESK
4) Physical Address of Building	15741 WALLISVILLE ROAD
5) City	HOUSTON
6) Contact Name	
7) Phone (###-###-####)	8329275550
8) Extension	
9) Is the location open to the public?	Yes

Plain Language

1) Plain Language	
[File Properties]	
File Name	LANG_Attachment PLS-1 Plain Language Summary WQ0000391000.pdf
Hash	8C3C75B85B99857237A21AF67252AB323B5167E1902CC4101C3354C596C1AC9E
MIME-Type	application/pdf

Supplemental Permit Information Form

1) Supplemental Permit Information Form (SPIF)	
[File Properties]	
File Name	SPIF_Attachment SPIF-1 Supplemental Permit Information Form WQ0000391000.pdf
Hash	AC288180B585B872C8B561E4BF84710F8D213656CDB42827B341304EF3DD3384
MIME-Type	application/pdf
[File Properties]	
File Name	SPIF_Attachment SPIF-2 WQ0000391000 CVON USGS Map.pdf
Hash	BC5E5D4ACBAB0D7AE62F1D74B78266A2B06271D6B16AC9C7EBACC6DDE3F50E52
MIME-Type	application/pdf

Industrial Attachments

1) Attach an 8.5"x11", reproduced portion of the most current and original USGS Topographic Quadrangle Map(s) that meets the 1:24,000 scale.	
[File Properties]	
File Name	MAP_Attachment A-1 WQ0000391000 USGS Map.pdf
Hash	13C95F7A1D6B17D05D52B7C89A930A109CA07BE0E516F673F619D739DA89A740
MIME-Type	application/pdf
2) Copy of the proof of contact or approval letter for discharge to public ditch or right-of-way.	
[File Properties]	
File Name	DIS_Attachment A-2 WQ0000391000 HCFCD Approval Letter.PDF
Hash	8250A53EC2929B8D1F3D190594DBBD09E9763C4807665700CA36FF33C2BDAAA2
MIME-Type	application/pdf

3) I confirm that all required sections of Technical Report 1.0 are complete and will be included in the Technical Attachment.	Yes
3.1) I confirm that Worksheet 2.0 (Pollutant Analyses Requirements) is complete and included in the Technical Attachment.	Yes
3.2) I confirm that Worksheet 4.0 (Receiving Waters) is complete and included in the Technical Attachment.	Yes
3.3) Are you planning to include Worksheet 4.1 (Waterbody Physical Characteristics) in the Technical Attachment?	No
3.4) Are you planning to include Worksheet 6.0 (Industrial Waste Contribution) in the Technical Attachment?	No
3.5) Are you planning to include Worksheet 7.0 (Stormwater Discharges Associated with Industrial Activities) to the Technical Attachment?	No
3.6) Are you planning to include Worksheet 8.0 (Aquaculture) in the Technical Attachment?	No
3.7) Are you planning to include Worksheet 9.0 (Class V Injection Well Inventory/Authorization) in the Technical Attachment?	No
3.8) Are you planning to include Worksheet 10.0 (Quarries in the John Graves Scenic Riverway) in the Technical Attachment?	No
3.9) Are you planning to include Worksheet 11.0 (Cooling Water System Information) in the Technical Attachment?	No
3.10) Are you planning to include Worksheet 11.1 (Impingement Mortality) in the Technical Attachment?	No
3.11) Are you planning to include Worksheet 11.2 (Source Water Biological Data) in the Technical Attachment?	No
3.12) Are you planning to include Worksheet 11.3 (Entrainment) in the Technical Attachment?	No
3.13) Technical Attachment	
[File Properties]	
File Name	TECH_WQ0000391000 CVON TPDES Technical Report 2025.pdf
Hash	8D4FB5A17E77E6E5BBD0F6D5E84349155DA2114DB47B91899E07EFD2E40756
MIME-Type	application/pdf
4) Flow Diagram	
[File Properties]	
File Name	FLDIA_WQ0000391000 Fig 2 CVON Wastewater Flow Diagram.pdf
Hash	EA0D41FA35FD326F162C6C8145D0EAE9E58166AB3928E02A8CD308EE2235F793
MIME-Type	application/pdf
5) Site Drawing	
[File Properties]	
File Name	SITEDR_Attachment T-2 Flex 2 Overall Site Plan WQ0000391000.pdf
Hash	3DE7E69B37D631CEBE76B31639D3993519B7286FC9E4A1D4AAB582B119A84ECA
MIME-Type	application/pdf
[File Properties]	
File Name	SITEDR_Attachment T-3-1 WQ0000391000 Facility Map.pdf
Hash	63A497D7A1DD4313F32289C00715C4312A26CE99174024D870409FA70BE63477
MIME-Type	application/pdf
[File Properties]	

File Name	SITEDR_Attachment T-3-2 WQ0000391000 Stormwater Outfall Map.pdf
Hash	E08A1DDA8F157DC49A3EFFF39E234DC662A953F3B7ED99A38E2A9B90E76BFE08
MIME-Type	application/pdf
[File Properties]	
File Name	SITEDR_Attachment T-3-3 WQ0000391000 Barge Loading Area.pdf
Hash	0061525ABC7102F29A1DAA588F9D2CBD35C8460314CB0F4A138EC38D8F6956FA
MIME-Type	application/pdf
6) Design Calculations	
[File Properties]	
File Name	DES_CAL_WQ0000391000 Table 3 Outfall Wastewaters.pdf
Hash	119C5C9456FA73E7AC32729D35A36ADB3203C26F5F69BCA618E2C87BB1E7B86F
MIME-Type	application/pdf
7) Solids Management Plan	
8) Water Balance	
[File Properties]	
File Name	WB_WQ0000391000 Fig 1 CVON Wastewater Flow Balance.pdf
Hash	4255C56035A2B81643C5FDA6B0C05C3CE8FABEDFAD961BD8EC71762F16B9E69A
MIME-Type	application/pdf
9) Other Attachments	
[File Properties]	
File Name	OTHER_Table of Contents WQ0000391000.pdf
Hash	3F4FDD012463DEC8EFC1C348D1E1E93CF15D42E36DC29EBF35317009FFE66293
MIME-Type	application/pdf
[File Properties]	
File Name	OTHER_Attachment T-1 WQ0000391000 CVON Facility Description 2025.pdf
Hash	1B11961CBE3826C6AEC2B629835DEADC6C71CF6F15FF6F03838F29A4F61893DE
MIME-Type	application/pdf
[File Properties]	
File Name	OTHER_Attachment T-4 WQ0000391000 Treatment Chemicals.pdf
Hash	539F783958E90D84DC7A27279F6BA513F8A8A5C51DB3DB1F048152B5B97759CD
MIME-Type	application/pdf

Certification

I certify that I am authorized under 30 Texas Administrative Code 305.44 to sign this document and can provide documentation in proof of such authorization upon request.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

1. I am Gregory M Cannon, the owner of the STEERS account ER053903.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Update Domestic or Industrial Individual Permit WQ0000391000.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OWNER Signature: Gregory M Cannon OWNER

Customer Number:	CN600124705
Legal Name:	Equistar Chemicals, LP
Account Number:	ER053903
Signature IP Address:	50.172.254.77
Signature Date:	2025-09-25
Signature Hash:	4AEAA1DFF1DCB1B1EC2563AA08F4CFF9ACAC2CAA9150EF50F9030F9E2F34B1D8
Form Hash Code at time of Signature:	39B5387106CE7ADED8E1B2E42BB627872DE9ABED2323CCEAF567502BCF383CA2

Fee Payment

Transaction by:	The application fee payment transaction was made by ER053903/Gregory M Cannon
Paid by:	The application fee was paid by RAYANN BUTLER
Fee Amount:	\$2000.00
Paid Date:	The application fee was paid on 2025-09-25
Transaction/Voucher number:	The transaction number is 582EA000686378 and the voucher number is 784869

Submission

Reference Number:	The application reference number is 820043
Submitted by:	The application was submitted by ER053903/Gregory M Cannon
Submitted Timestamp:	The application was submitted on 2025-09-25 at 10:29:31 CDT
Submitted From:	The application was submitted from IP address 152.179.207.18
Confirmation Number:	The confirmation number is 680701
Steers Version:	The STEERS version is 6.92
Permit Number:	The permit number is WQ0000391000

Additional Information

Application Creator: This account was created by Dianna Kocurek



March 11, 2020

Certified Mail
7015 0640 0002 0784 9184

Ms. Adriene C. McClarron
Water Quality Division (MC-148)
Applications Review and Processing Team
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: Equistar Chemicals, LP (CN600124705)
Equistar Chemicals Channelview Complex (RN100542281)
Renewal/Amendment Application TPDES WQ0000391000 (EPA ID TX0003531)

Ms. McClarron:

On February 20, 2020 Equistar Chemicals, LP responded to your letter dated January 30, 2020 requesting additional information for the TPDES renewal/amendment application for the Channelview North Complex (CVON). Item #2 on the additional information request letter stated *Item 9.g on page 8 of the administrative report: Please provide a copy of the correspondence sent to the owner of the ditch requesting the authorization and upon receipt, the approval letter.* In Equistar's response, we provided the application submitted to Harris County Flood Control District (HCFCD) to discharge into ditch G103-02-03. On February 24, 2020 HCFCD provided an approval letter to discharge Outfalls 003, 003A, 003B, and 003C to HCFC owned channel G103-02-03. Attached is the approval letter as well as some additional details communicated via email with the HCFCD Project Manager.

Outfalls 003, 003A, 003B, and 003C are strictly stormwater outfalls and do not discharge industrial wastewater, domestic wastewater, or treated stormwater. Since there are no sources of bacteria at these outfalls other than what is naturally occurring from local wildlife, Equistar requests that a bacteria limit not be included in TPDES Permit WQ0000391000.

ATTACHMENT A-2

If you have any questions regarding this response please contact Nancy Ross at (281) 452-8722 or at Nancy.Ross@lyondellbasell.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott Mayo', with a large, stylized loop at the end.

Scott Mayo
Environmental Manager – Waste & Water

Enclosure

CVON File No. 300-160-045

February 24, 2020

Mr. Scott Mayo
Equistar Chemicals, LP
8280 Sheldon Road
Channelview, TX 77530



9900 Northwest Freeway
Houston, Texas 77092
386-286-4000
www.hcfdc.org

SENT VIA ELECTRONIC MAIL: NO HARD COPY TO FOLLOW

RE: Stormwater Discharge from Equistar Chemicals, LP
Discharge of Rain Dependent Volume
TCEQ Discharge Permit: WQ0000391000
HCFCD Unit G103-00-00

Dear Mr. Mayo:

The Harris County Flood Control District (HCFCD) has received your application for discharge into a Flood Control or County facility. The subsequent flow path from outfall 001, 002, 004, 006, 005, 101, and 201, is to immediately adjacent property that HCFCD does not own or operate and therefore cannot authorize a discharge into property HCFCD does not own. The discharge from these outfalls appears to flow to the San Jacinto River and this drainage is not owned or operated by HCFCD.

The flow path of outfall 003, 003A, 003B, and 003C, is to property that HCFCD owns, and thence to HCFCD owned channel G103-02-03. HCFCD will accept discharge into G103-02-03 from the flow path indicated. Harris County's waterways are impaired for bacteria (*E. coli*); therefore, HCFCD requests discharges from Equistar Chemicals, LP Facility be monitored for bacteria (*E. coli*) at effluent limits of 63 MPN mg/l with the other required parameters. Your application is being processed and we have no objection at this time to the discharge of treated stormwater flows into or toward HCFCD G103-02-03, if copies of discharge monitoring reports for bacteria (*E. coli*) and Permit effluent limits are submitted to HCFCD.

Please note this does not authorize the discharge of Wastewater into or towards G103-02-03 as the indicated application only requests the discharge of rain dependent stormwater. If Equistar Chemicals, LP wishes you discharge wastewater from outfalls 003, 003A, 003B, and 003C, that a separate request for discharge should be submitted for approval with the appropriate effluent limits listed in the existing WQ0000391000 wastewater permit.

ATTACHMENT A-2

February 24, 2020
Mr. Scott Mayo
Equistar Chemicals, LP
Page 2

Please note if this will involve new construction that construction plans designed in accordance with Harris County Flood Control District's criteria and other adopted policies must be submitted for review to the Watershed Management Department.

If you have any questions or need additional information, please feel free to call me at 386-684-4063.

Sincerely,



Roberto J. Vega,
Stormwater Quality Design Project Manager
Environmental Quality Section

RV:rop

Attachment: Copy of Application

cc: David Saha, HCFCD
Jeremy Phillips, HCFCD
Project File 450

S:\Planningdiv\Environmental Services\Environmental Quality\Programs\Water Quality\WWTP_Response Letters\20-L2-21Mayo G103-00-00 Equistar Chemicals Stormwater Discharge Approval Ltr.Docx

ATTACHMENT A-2

Ross, Nancy J

From: Vega, Roberto (Flood Control) <Roberto.Vega@hcfcd.hctx.net>
Sent: Tuesday, March 03, 2020 4:20 PM
To: Ross, Nancy J
Subject: RE: Waste Water Discharge Application; 20-L2-24Mayo G103-00-00 Equistar Chemicals Stormwater Discharge Approval Letter

This email originated outside LyondellBasell. Do not click on links or open attachments unless you recognize the sender.
Nancy -

The Bacteria statement is a partnership "request" to help HCFCFCD comply with the Bacteria reduction plan managed by HGAC and is not a Harris County or Harris County Flood Control regulatory requirement. In the Bacteria Reduction Plan the stakeholders (known as the Bacteria Implementation Group "BIG") agreed that partners would request from TCEQ monitoring of Bacteria at the 63 MPN/mL. Usually TCEQ will not require that effluent monitoring on any of their permits that do not discharge wastewater from the outfall pipes. If you plan to discharge wastewater from your outfall pipes I will assume that TCEQ will update your effluent limit to meet the request.

This particular approach was targeted since initial studies conducted by the BIG and TMDLs set in the region listed wastewater as a major factor in bacteria impairments.

I included the request since the application did list your wastewater permit ID. You will only be required to monitor effluent limits in your TCEQ issued permit since HCFCD and HC does not regulate effluent discharge limits.

If you'd like additional clarification I'm available Thursday (3/5) 3:00pm

From: Ross, Nancy J <Nancy.Ross@lyondellbasell.com>
Sent: Tuesday, March 3, 2020 4:05 PM
To: Vega, Roberto (Flood Control) <Roberto.Vega@hcfcd.hctx.net>
Subject: RE: Waste Water Discharge Application; 20-L2-24Mayo G103-00-00 Equistar Chemicals Stormwater Discharge Approval Letter

Good afternoon Roberto.

My manager and I would like to schedule a conference call with you to discuss the bacteria monitoring requirement and effluent limit referenced in the attached approval letter. We would like an opportunity to explain where the discharge from these outfalls originate and to get a better understanding of where the bacteria limits are coming from (regulation or study). Would one of the following dates/times work for you:

Wednesday (3/4) 3:30pm
Thursday (3/5) 3:00pm
Tuesday (3/10) 9:00am

Thank you.

Nancy Ross
Environmental Engineer
LyondellBasell Channelview
8280 Sheldon Road
Channelview, TX 77530

(281) 452-8722

Nancy.Ross@lyondellbasell.com

lyondellbasell
Advancing Possible



From: Vega, Roberto (Flood Control) <Roberto.Vega@hcfcd.hctx.net>

Sent: Tuesday, February 25, 2020 8:49 AM

To: Ross, Nancy J <Nancy.Ross@lyondellbasell.com>

Subject: Waste Water Discharge Application; 20-L2-24Mayo G103-00-00 Equistar Chemicals Stormwater Discharge Approval Letter

This email originated outside LyondellBasell. Do not click on links or open attachments unless you recognize the sender. Please see attached response to the discharge application submitted on February 6, 2020 please let me know if you have any additional information requests.

Roberto J. Vega III,
Stormwater Quality Design Project Manager
Environmental Services Section
Harris County Flood Control District
13105 NW Freeway| Houston, Texas 77040
346-286-4000 (main) | 346-286-4063 (direct)
Roberto.Vega@hcfcd.hctx.net | www.hcfcd.org

Information contained in this email is subject to the Disclaimer and Privacy Notice found by clicking on the following link: <a href="<http://www.lyb.com/en/about-us/disclaimer>"><http://www.lyb.com/en/about-us/disclaimer>

Equistar Chemicals, LP
Channelview Complex
TPDES WQ0000391000 Renewal Application 2025

Application Contents

Administrative Report 1.0
Technical Report 1.0
 Worksheet 1 Effluent Guidelines
 Worksheet 2 Pollutant Characterization
 Worksheet 4 Receiving Waters
 Worksheet 5 Domestic Wastewater

Attachments

Cross-reference to
Application Item

SPIF-1	Supplemental Permit Information Form (SPIF)	
SPIF-2	USGS Map	SPIF-5
PLS-1	Plain Language Summary	AR1-9.f
A-1	USGS Map	AR1-11.b
A-2	HCFCFCD Approval Letter	
T-1	Facility Description	TR-1.b, 2.a, 6
	Table 1. Raw Materials, Intermediates, and Final Products	TR-1.c
	Table 2. Wastewater Sources by Outfall	TR-4
	Table 3. Wastewater Flows by Outfall	TR-4
	Table 4. Wastewater Treatment Units	TR-2.a
	Figure 1. Wastewater Flow Balance	TR-2.b
	Figure 2. Wastewater Flow Diagram	TR-2.b
T-2	Flex 2 Overall Site Plan	TR-3
T-3-1	Facility Map	TR-1.d
T-3-2	Storm Water Outfall Map	TR-1.d
T-3-3	Barge Loading Area	TR-1.d
T-4	Treatment Chemicals and SDSs	TR-5.b

Reference Key

AR1 Administrative Report 1.0
TR Technical Report
SPIF Supplemental Permit Information Form
W# Worksheet #



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**SUMMARY OF APPLICATION IN PLAIN
LANGUAGE FOR TPDES OR TLAP PERMIT
APPLICATIONS****Summary of Application (in plain language) Template and
Instructions for Texas Pollutant Discharge Elimination System
(TPDES) and Texas Land Application (TLAP) Permit
Applications**

Applicants should use this template to develop a plain language summary of your facility and application as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. You may modify the template as necessary to accurately describe your facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how you will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package.** For your convenience, a Spanish template has been provided below.

**ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS
INDUSTRIAL WASTEWATER/STORMWATER**

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

Equistar Chemicals, LP (CN600124705) operates the Equistar Chemicals Channelview Complex (RN100542281), which manufactures bulk and commodity organic chemicals and thermoplastic resins. The plant is located at 8280 Sheldon Road, Channelview, Harris County, Texas 77530.

This application is for renewal of TPDES permit no. WQ0000391000. Outfall 001 is authorized to discharge treated process wastewater, utility wastewater, treated domestic wastewater, and stormwater at an average flow not to exceed 8.9 million gallons per day. Outfalls 002, 003, 003A, 003B, 003C, 004, and 005 are authorized to discharge stormwater, utility wastewaters, and water from spill cleanups; flows are intermittent and variable. Outfall 006 is authorized to discharge stormwater; flow is intermittent and variable. The outfalls discharge into drainage ditches and channels, then into San Jacinto River Tidal.

Wastewater treatment processes for Outfall 001 include separation processes, neutralization/equalization, and biologic treatment. Pollutants expected in outfall discharges include suspended and dissolved solids, oil and grease, and metals. Other potential pollutants that may be in the discharges are included in Worksheet 2 of the TPDES application.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP**AGUAS RESIDUALES INDUSTRIALES /AGUAS PLUVIALES**

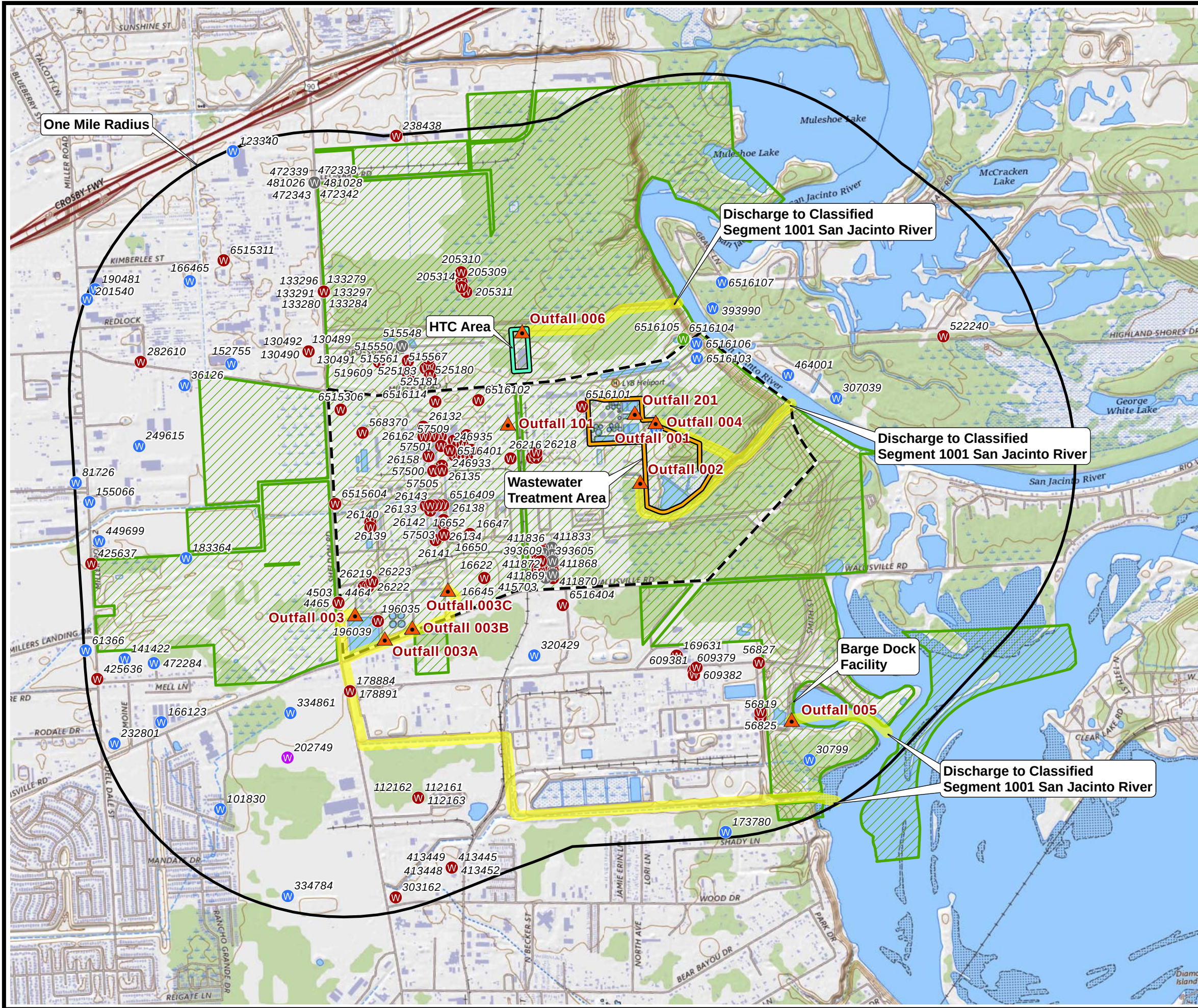
El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

Equistar Chemicals, LP (CN600124705) opera el complejo Equistar Chemicals Channelview (RN100542281), que fabrica productos químicos orgánicos a granel y básicos y resinas termoplásticas. La planta está ubicada en 8280 Sheldon Road, Channelview, Condado de Harris, Texas 77530.

Esta solicitud es para la renovación del permiso TPDES no. WQ0000391000. El Outfall 001 está autorizado para descargar aguas residuales tratadas de procesos, aguas residuales de servicios públicos, aguas residuales domésticas tratadas y aguas pluviales con un caudal medio que no supere los 8.9 millones de galones al día. Los Outfalls 002, 003, 003A, 003B, 003C, 004 y 005 están autorizados para descargar aguas pluviales, aguas residuales de servicios públicos y agua procedente de la limpieza de derrames; los caudales son intermitentes y variables. El Outfall 006 está autorizado para descargar aguas pluviales; el caudal es intermitente y variable. Los Outfalls se descargan en zanjas y canales de drenaje, y luego en el río San Jacinto Tidal.

Los procesos de tratamiento de aguas residuales para el Outfall 001 incluyen procesos de separación, neutralización/ecualización y tratamiento biológico. Los contaminantes que se esperan en los vertidos incluyen sólidos en suspensión y disueltos, aceites y grasas, y metales. Otros contaminantes potenciales que pueden estar presentes en las descargas se incluyen en la Worksheet 2 de la solicitud TPDES.

J:\P\Equistar\Channelview\North Complex TPD\ES 2023



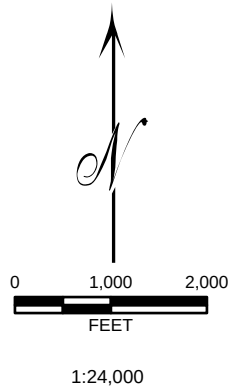
LEGEND

- Facility Boundary, Equistar Chemicals, LP
- Equistar Chemicals Property Boundary
- Wastewater Treatment Area
- HTC (Houston Technology Center) Area
- Outfall Location
- Discharge Route
- One Mile Radius

TWDB Wells

- Domestic; Public Supply
- Industrial; Monitor; Environmental Soil Boring
- Irrigation
- Rig Supply
- Test Well

Sources:
1. USGS Topographic Quadrangles 7.5 minute series:
Jacinto City, TX; Highlands, TX
2. Wells: Texas Water Development Board (TWDB) GIS data



EQUISTAR CHEMICALS, LP
CHANNELVIEW NORTH COMPLEX
CHANNELVIEW, TEXAS

ATTACHMENT A-1 USGS MAP

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	TPDES 2023
CHECKED BY:	D KOCUREK	DATE PRINTED:	1/18/2023	FILE NO.	Project.aprx
APPROVED BY:	D KOCUREK				
DATE:	January 2023				



**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)**

**FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL
TPDES WASTEWATER PERMIT APPLICATIONS**

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ____Minor Amendment ____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

____ Texas Historical Commission

____ U.S. Fish and Wildlife

____ Texas Parks and Wildlife Department

____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: Equistar Chemicals, LP

Permit No. WQ00 00391000EPA ID No. TX 0003531

2. Address of the project (or a location description that includes street/highway, city/vicinity, and county):

8280 Sheldon Road, Channelview, Harris County, Texas 77530

3. Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Tom Warnement

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Environmental Manager

Mailing Address: Equistar Chemicals, LP

City, State, Zip Code: P.O. Box 777, Channelview, TX 77530

Phone No.: 281-860-1272 Ext.: N/A Fax No.: N/A

E-mail Address: Tom.Warnement@lyondellbasell.com

4. List the county in which the facility is located: Harris
5. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

6. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

Via Outfalls 001 and 004 to an unnamed drainage ditch, thence to Wallisville Gully, thence to San Jacinto River Tidal; via Outfall 002 to Wallisville Gully, thence to San Jacinto River Tidal; via Outfall 005 directly to the San Jacinto River Tidal; via Outfall 003 to an unnamed drainage ditch, thence to Harris County Flood Control District (HCFCD) ditch G103-03-02, thence to the San Jacinto River Tidal; and via Outfall 006 to HCFCD ditch G103-07-05, thence to San Jacinto River Tidal in Segment No. 1001 of the San Jacinto River Basin.

7. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report).

See Attachment SPIF-2 USGS Map.

8. Provide original photographs of any structures 50 years or older on the property.

The original facility was constructed in 1957. Several of the tanks, drums, exchangers, and towers that were originally constructed are still in use today. Also, five of the original field houses are still in use as office buildings and warehouses. As manufacturing processes change at the site, older structures have been modified or removed. Photos can be provided of the buildings upon request.

9. Does your project involve any of the following? Check all that apply.

- ☐ Proposed access roads, utility lines, construction easements
- ☐ Visual effects that could damage or detract from a historic property's integrity
- ☐ Vibration effects during construction or as a result of project design
- ☐ Additional phases of development that are planned for the future
- ☐ Sealing caves, fractures, sinkholes, other karst features
- ☐ Disturbance of vegetation or wetlands

N/A

10. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

N/A

11. Describe existing disturbances, vegetation, and land use:

Land use is industrial. Ground cover throughout consists of stabilized road base, concrete, and grass.

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

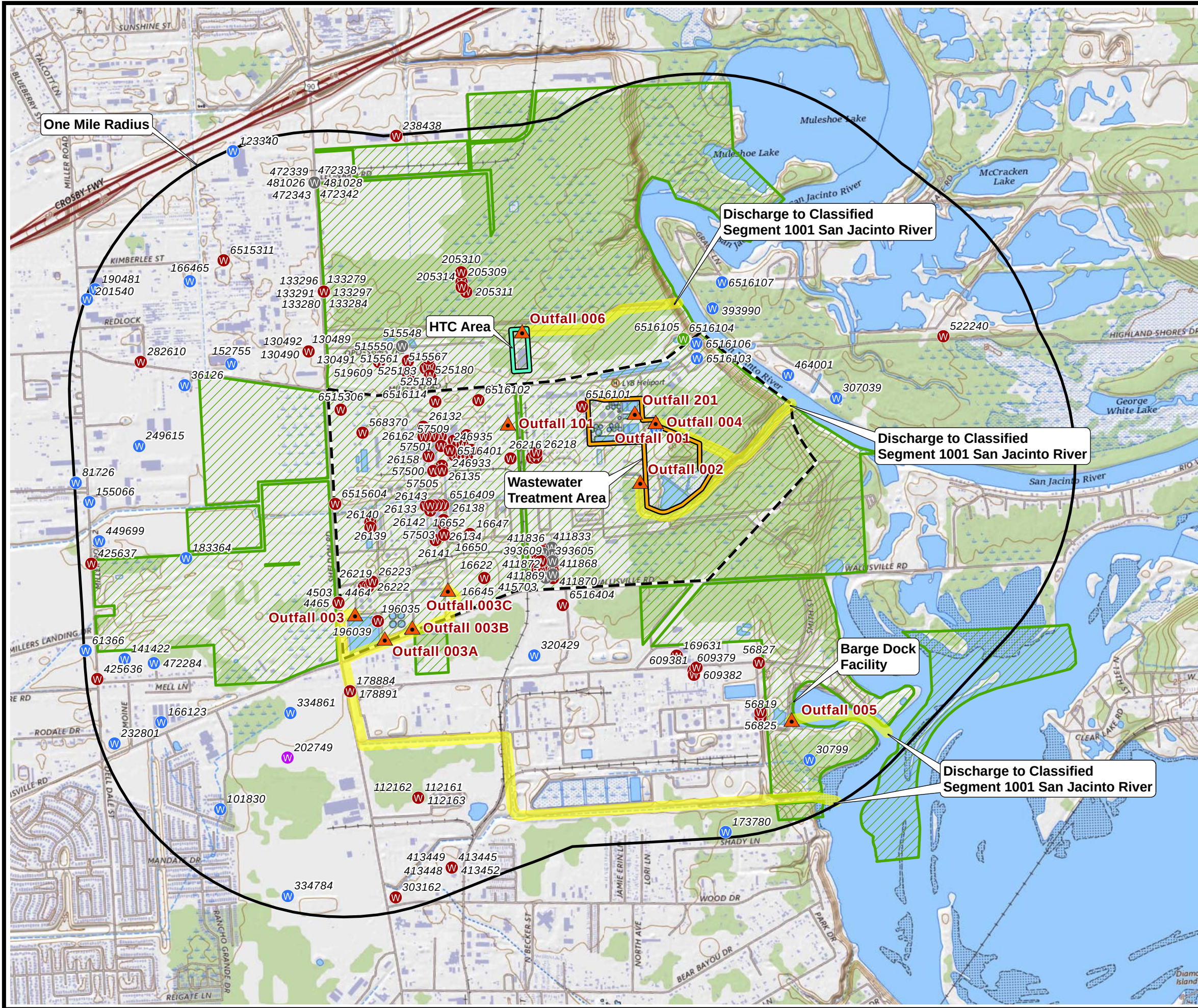
1. List construction dates of all buildings and structures on the property:

Initial construction at the site was in 1957. Additional buildings and process units were added in subsequent years.

2. Provide a brief history of the property, and name of the architect/builder, if known.

The facility was initially constructed by Texas Butadiene Chemical Corporation in 1957.

J:\P\Equistar\Channelview\North Complex TPD\ES 2023



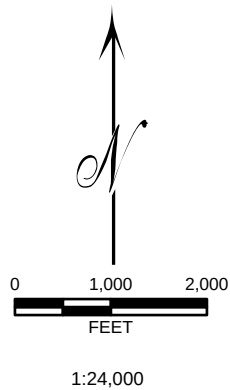
LEGEND

- Facility Boundary, Equistar Chemicals, LP
- Equistar Chemicals Property Boundary
- Wastewater Treatment Area
- HTC (Houston Technology Center) Area
- Outfall Location
- Discharge Route
- One Mile Radius

TWDB Wells

- Domestic; Public Supply
- Industrial; Monitor; Environmental Soil Boring
- Irrigation
- Rig Supply
- Test Well

Sources:
1. USGS Topographic Quadrangles 7.5 minute series:
Jacinto City, TX; Highlands, TX
2. Wells: Texas Water Development Board (TWDB) GIS data



EQUISTAR CHEMICALS, LP
CHANNELVIEW NORTH COMPLEX
CHANNELVIEW, TEXAS

ATTACHMENT SPIF-2 USGS MAP

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	TPDES 2023
CHECKED BY:	D KOCUREK	DATE PRINTED:	1/18/2023	FILE NO.	Project.aprx
APPROVED BY:	D KOCUREK				
DATE:	January 2023				





TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION

TECHNICAL REPORT 1.0

The following information is **required** for all applications for a TLAP or an individual TPDES discharge permit.

For **additional information** or clarification on the requested information, please refer to the [Instructions for Completing the Industrial Wastewater Permit Application](#)¹ available on the TCEQ website. Please contact the Industrial Permits Team at 512-239-4671 with any questions about this form.

If more than one outfall is included in the application, provide applicable information for each individual outfall. **If an item does not apply to the facility, enter N/A** to indicate that the item has been considered. Include separate reports or additional sheets as **clearly cross-referenced attachments** and provide the attachment number in the space provided for the item the attachment addresses.

NOTE: This application is for an industrial wastewater permit only. Additional authorizations from the TCEQ Waste Permits Division or the TCEQ Air Permits Division may be needed.

Item 1. Facility/Site Information (Instructions, Page 39)

- a. Describe the general nature of the business and type(s) of industrial and commercial activities. Include all applicable SIC codes (up to 4).

The Equistar Chemicals, LP Channelview North Complex produces bulk and commodity organic chemicals and thermoplastic resins. Applicable SIC codes are 2813, 2821, 2822, and 2869.

- b. Describe all wastewater-generating processes at the facility.

See Attachment T-1 Facility Description.

- c. Provide a list of raw materials, major intermediates, and final products handled at the facility.

Materials List

Raw Materials	Intermediate Products	Final Products
<u>See Attachment T-1, Facility Description, Table 1 Raw Materials, Intermediates, and Products.</u>		

Attachment: T-1 Facility Description, Table 1 Raw Materials, Intermediates, and Products.

- d. Attach a facility map (drawn to scale) with the following information:

¹

https://www.tceq.texas.gov/permitting/wastewater/industrial/TPDES_industrial_wastewater_steps.html

- Production areas, maintenance areas, materials-handling areas, waste-disposal areas, and water intake structures.
- The location of each unit of the WWTP including the location of wastewater collection sumps, impoundments, outfalls, and sampling points, if significantly different from outfall locations.

Attachment: T-3-1 Facility Map, T-3-2 Storm Water Outfall Map, T-3-3 Barge Loading Area

e. Is this a new permit application for an existing facility?

☐ Yes ☒ No

If **yes**, provide background discussion: N/A

f. Is/will the treatment facility/disposal site be located above the 100-year frequency flood level.

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain: 48201Co703M

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are used/proposed to prevent flooding (including tail water and rainfall run-on controls) of the treatment facility and disposal area: N/A

Attachment: N/A

g. For **new** or **major amendment** permit applications, will any construction operations result in a discharge of fill material into a water in the state?

☐ Yes ☐ No ☒ N/A (renewal only)

h. If **yes** to Item 1.g, has the applicant applied for a USACE CWA Chapter 404 Dredge and Fill permit?

☐ Yes ☒ No

If **yes**, provide the permit number: N/A

If **no**, provide an approximate date of application submittal to the USACE: N/A

Item 2. Treatment System (Instructions, Page 40)

a. List any physical, chemical, or biological treatment process(es) used/proposed to treat wastewater at this facility. Include a description of each treatment process, starting with initial treatment and finishing with the outfall/point of disposal.

See Attachment T-1 Facility Description.

b. Attach a flow schematic **with a water balance** showing all sources of water and wastewater flow into the facility, wastewater flow into and from each treatment unit, and wastewater flow to each outfall/point of disposal.

Attachment: T-1 Facility Description, Figure 1 Wastewater Flow Balance, Figure 2 Wastewater Flow Diagram

Item 3. Impoundments (Instructions, Page 40)

Does the facility use or plan to use any wastewater impoundments (e.g., lagoons or ponds?)

☒ Yes ☐ No

If **no**, proceed to Item 4. If **yes**, complete **Item 3.a** for **existing** impoundments and **Items 3.a - 3.e** for **new or proposed** impoundments. **NOTE:** See instructions, Pages 40-42, for additional information on the attachments required by Items 3.a – 3.e.

- a. Complete the table with the following information for each existing, new, or proposed impoundment. Attach additional copies of the Impoundment Information table, if needed.

Use Designation: Indicate the use designation for each impoundment as Treatment (T), Disposal (D), Containment (C), or Evaporation (E).

Associated Outfall Number: Provide an outfall number if a discharge occurs or will occur.

Liner Type: Indicate the liner type as Compacted clay liner (C), In-situ clay liner (I), Synthetic/plastic/rubber liner (S), or Alternate liner (A). **NOTE:** See instructions for further detail on liner specifications. If an alternate liner (A) is selected, include an attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Leak Detection System: If any leak detection systems are in place/planned, enter Y for yes. Otherwise, enter N for no.

Groundwater Monitoring Wells and Data: If groundwater monitoring wells are in place/planned, enter Y for yes. Otherwise, enter N for no. Attach any existing groundwater monitoring data.

Dimensions: Provide the dimensions, freeboard, surface area, storage capacity of the impoundments, and the maximum depth (not including freeboard). For impoundments with irregular shapes, submit surface area instead of length and width.

Compliance with 40 CFR Part 257, Subpart D: If the impoundment is required to be in compliance with 40 CFR Part 257, Subpart D, enter Y for yes. Otherwise, enter N for no.

Date of Construction: Enter the date construction of the impoundment commenced (mm/dd/yy).

Impoundment Information

Parameter	Pond #1 East Basin	Pond #2 Pond 1-A	Pond #3 Pond 1-B	Pond #4 Pond 2-A	Pond #5 Pond 2-B	Pond #6 HTC Pond	Pond #7 Barge Dock Pond	Pond #8 Stormwater Detention (future)*
Use Designation: (T) (D) (C) or (E)	T	C	C	C	C	C	C	C
Associated Outfall Number	001	001	001	001	001	006	005	002
Liner Type (C) (I) (S) or (A)	A	A	A	A	A	A	A	A
Alt. Liner Attachment Reference	12-inch compacted clay	12-inch compacted clay	12-inch compacted clay	12-inch compacted clay	12-inch compacted clay	12-inch compacted clay	In situ soil	Clay-lined with vegetative cover
Leak Detection System, Y/N	N	N	N	N	N	N	N	N
Groundwater Monitoring Wells, Y/N	N	N	N	N	N	N	N	N
Groundwater Monitoring Data Attachment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Not known	Not known	Not known	Not known	Not known	Not known	Not known	-
Length (ft)	450	204	204	204	204	375	Variable	[1]
Width (ft)	120	214	102	214	102	104	Variable	[1]
Max Depth From Water Surface (ft), Not Including Freeboard	10	4	4	4	4	7	4	[1]
Freeboard (ft)	2	3	3	3	3	3	2	[1]
Surface Area (acres)	1.24	1.00	0.48	1.00	0.48	0.90	1.90	[1]
Storage Capacity (gallons)	2,640,000	1,300,000	532,000	1,300,000	532,000	1,757,000	2,000,000	[1]
40 CFR Part 257, Subpart D, Y/N	N	N	N	N	N	N	N	N
Date of Construction	1960s	Mid-1970s	Mid-1970s	Late-1970s	Late-1970s	1/12/2012	Between 1996- 1998	2028 (estimated)
* The future stormwater detention pond will be for stormwater from the Flex 2 project laydown yard. [1] See Attachment T-2 Flex 2 Project South Laydown Area Overall Site Plan.								

Attachment: N/A

The following information (**Items 3.b – 3.e**) is required only for **new or proposed** impoundments.

- b. For new or proposed impoundments, attach any available information on the following items. If attached, check **yes** in the appropriate box. Otherwise, check **no** or **not yet designed**.

1. Liner data

☐ Yes ☐ No ☒ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☒ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☒ Not yet designed

NOTE: Item b.3 is required if the bottom of the pond is not above the seasonal high-water table in the shallowest water-bearing zone.

Attachment: N/A – The future stormwater detention pond (#8) is expected to be used only for stormwater.

For TLAP applications: Items 3.c – 3.e are **not required**, continue to Item 4.

- c. Attach a USGS map or a color copy of original quality and scale which accurately locates and identifies all known water supply wells and monitor wells within ½-mile of the impoundments.

Attachment: N/A

- d. Attach copies of State Water Well Reports (e.g., driller's logs, completion data, etc.), and data on depths to groundwater for all known water supply wells including a description of how the depths to groundwater were obtained.

Attachment: N/A

- e. Attach information pertaining to the groundwater, soils, geology, pond liner, etc. used to assess the potential for migration of wastes from the impoundments or the potential for contamination of groundwater or surface water.

Attachment: N/A

Item 4. Outfall/Disposal Method Information (Instructions, Page 42)

Complete the following tables to describe the location and wastewater discharge or disposal operations for each outfall for discharge, and for each point of disposal for TLAP operations.

If there are more outfalls/points of disposal at the facility than the spaces provided, copies of pages 6 and/or numbered accordingly (i.e., page 6a, 6b, etc.) may be used to provide information on the additional outfalls.

For TLAP applications: Indicate the disposal method and each individual irrigation area **I**, evaporation pond **E**, or subsurface drainage system **S** by providing the appropriate letter designation for the disposal method followed by a numerical designation for each disposal area in the space provided for **Outfall** number (e.g. **E1** for evaporation pond 1, **I2** for irrigation area No. 2, etc.).

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	29.833441	-95.106399
101	29.833636	-95.115921
201	29.834005	-95.107723
002	29.830115	-95.107521
003	29.823203	-95.126175
003A	29.821787	-95.124312
003B	29.822350	-95.122517
003C	29.824416	-95.120143

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
004	29.833444	-95.106398
005	29.816470	-95.098278
006	29.839109	-95.114685
	Outfall 006 is currently authorized under MSGP TXR05BR93. The outfall is also authorized but not activated under TPDES WQ0000391000, and Equistar requests that this option be retained in WQ0000391000.	
007	Outfall 007 is for stormwater from a concrete batch plant (none currently active) associated with construction activities and its location would vary by construction project.	

Outfall Location Description

Outfall No.	Location Description
001	Where commingled wastewaters are discharged prior to entering the on-site, unnamed drainage ditch
101	At the exit of the septic chlorinators and prior to commingling with other wastewaters.
201	At the exit of the septic chlorinators and prior to commingling with other wastewaters.
002	In the plant discharge ditch (on the west side of the sludge lagoons) where groundwater seepage, stormwater runoff, and other authorized wastewaters are discharged.
003	At the southwest section of the plant adjacent to Sheldon Road
003A	At the southwest section of the plant adjacent to Wallisville Road
003B	At the southwest section of the plant, east of Outfall 003A, adjacent to Wallisville Road
003C	At the southwest section of the plant, east of Outfall 003B, adjacent to Wallisville Road
004	Where intermittent discharges to an unnamed drainage ditch occur near the northeast corner of the plant site, adjacent to Outfall 001
005	Where intermittent discharges occur from the barge dock area
006	At the outlet (48-inch drain) of the stormwater impoundment at the Houston Technology Center
007	At the discharge point of stormwater runoff from the concrete batch plant located in the construction area and prior to combining with other stormwater runoff or wastewaters

Description of Sampling Point(s) (if different from Outfall location)

Outfall No.	Description of sampling point
All outfalls	Same as outfall location

Outfall Flow Information - Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
001	8.9	N/A (Report)	8.9	N/A (Report)	N/A
101	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
201	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
002	Intermittent and flow-variable	Intermittent and flow-variable	Flow-variable	Flow-variable	N/A
003	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
003A	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
003B	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
003C	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
004	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
005	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
006	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A
007	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	Intermittent and flow-variable	N/A

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	N	Y	Bowlus flume
101	Y	N	Estimate / Open channel flume
201	Y	N	Estimate / Coriolis flow meter
002	N	Y	Estimate
003	N	Y	Estimate
003A	N	Y	Estimate
003B	N	Y	Estimate
003C	N	Y	Estimate
004	N	Y	Estimate
005	N	Y	Estimate
006	N	Y	Estimate
007	N	Y	Estimate

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	31	12
101	Y	N	N	Variable	Variable	Variable
201	Y	N	N	Variable	Variable	Variable

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
002	N	Y	N	24	31	12
003	Y	N	N	Variable	Variable	Variable
003A	Y	N	N	Variable	Variable	Variable
003B	Y	N	N	Variable	Variable	Variable
003C	Y	N	N	Variable	Variable	Variable
004	Y	N	N	Variable	Variable	Variable
005	Y	N	N	Variable	Variable	Variable
006	Y	N	N	Variable	Variable	Variable
007	Y	N	N	Variable	Variable	Variable

Outfall Wastestream Contributions

Outfall No. All outfalls

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
See Attachment T-1 Facility Description, Table 2 Wastewater Sources by Outfall and Table 3 Wastewater Flows by Outfall.		

Attachment: N/A

Item 5. Blowdown and Once-Through Cooling Water Discharges (Instructions, Page 43)

a. Indicate if the facility currently or proposes to:

- ☒ Yes ☐ No Use cooling towers that discharge blowdown or other wastestreams
☒ Yes ☐ No Use boilers that discharge blowdown or other wastestreams
☐ Yes ☒ No Discharge once-through cooling water

NOTE: If the facility uses or plans to use cooling towers or once-through cooling water, Item 12 **is required**.

b. If **yes** to any of the above, attach an SDS with the following information for each chemical additive.

- Manufacturers Product Identification Number
- Product use (e.g., biocide, fungicide, corrosion inhibitor, etc.)
- Chemical composition including CASRN for each ingredient
- Classify product as non-persistent, persistent, or bioaccumulative
- Product or active ingredient half-life
- Frequency of product use (e.g., 2 hours/day once every two weeks)
- Product toxicity data specific to fish and aquatic invertebrate organisms
- Concentration of whole product or active ingredient, as appropriate, in wastestream.

In addition to each SDS, attach a summary of the above information for each specific wastestream and the associated chemical additives. Specify which outfalls are affected.

Attachment: T-4 Treatment Chemicals and SDSs

c. Cooling Towers and Boilers

If the facility currently or proposes to use cooling towers or boilers that discharge blowdown or other wastestreams to the outfall(s), complete the following table.

Cooling Towers and Boilers

Type of Unit	Number of Units	Daily Avg Blowdown (gallons/day)	Daily Max Blowdown (gallons/day)
Cooling Towers	6	2,500,000	3,000,000
Boilers	Equistar has no boilers; however, EIF CoGen has 4 boilers. Blowdown from the EIF boilers is included in the cooling tower blowdown flow rates.		

Item 6. Stormwater Management (Instructions, Page 44)

Will any existing/proposed outfalls discharge stormwater associated with industrial activities, as defined at *40 CFR § 122.26(b)(14)*, commingled with any other wastestream?

☒ Yes ☐ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in a manner which may result in exposure of the activities or materials to stormwater: See Attachment T-1 Facility Description.

Item 7. Domestic Sewage, Sewage Sludge, and Septage Management and Disposal (Instructions, Page 44)

Domestic Sewage - Waste and wastewater from humans or household operations that is discharged to a wastewater collection system or otherwise enters a treatment works.

- a. Check the box next to the appropriate method of domestic sewage and domestic sewage sludge treatment or disposal. Complete Worksheet 5.0 or Item 7.b if directed to do so.
- ☐ Domestic sewage is routed (i.e., connected to or transported to) to a WWTP permitted to receive domestic sewage for treatment, disposal, or both. Complete Item 7.b.
 - ☐ Domestic sewage disposed of by an on-site septic tank and drainfield system. Complete Item 7.b.
 - ☐ Domestic and industrial treatment sludge ARE commingled prior to use or disposal.
 - ☒ Industrial wastewater and domestic sewage are treated separately, and the respective sludge IS NOT commingled prior to sludge use or disposal. Complete Worksheet 5.0.
 - ☐ Facility is a POTW. Complete Worksheet 5.0.
 - ☐ Domestic sewage is not generated on-site.
 - ☒ Other (e.g., portable toilets), specify and Complete Item 7.b: Some domestic wastewater is collected in on-site portable toilets during construction/maintenance work and transported off-site for treatment.

- b. Provide the name and TCEQ, NPDES, or TPDES Permit No. of the waste-disposal facility which receives the domestic sewage/septage. If hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit / Registration No.
Texas Outhouse	22739
Gulf Coast Authority Washburn Tunnel Facility (Vince Bayou Receiving Station)	WQ0001740000

Item 8. Improvements or Compliance/Enforcement Requirements (Instructions, Page 45)

- a. Is the permittee currently required to meet any implementation schedule for compliance or enforcement?
☐ Yes ☒ No
- b. Has the permittee completed or planned for any improvements or construction projects?
☐ Yes ☒ No
- c. If **yes** to either 8.a or 8.b, provide a brief summary of the requirements and a status update: N/A

Item 9. Toxicity Testing (Instructions, Page 45)

Have any biological tests for acute or chronic toxicity been made on any of the discharges or on a receiving water in relation to the discharge within the last three years?

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: Routine biomonitoring tests and reporting are required for Outfall 001 in the current TPDES permit.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** N/A – all test results have been submitted.

Item 10. Off-Site/Third Party Wastes (Instructions, Page 45)

- a. Does or will the facility receive wastes from off-site sources for treatment at the facility, disposal on-site via land application, or discharge via a permitted outfall?

☒ Yes ☐ No

If **yes**, provide responses to Items 10.b through 10.d below.

If **no**, proceed to Item 11.

- b. Attach the following information to the application:

- List of wastes received (including volumes, characterization, and capability with on-site wastes).

- Identify the sources of wastes received (including the legal name and addresses of the generators).
- Description of the relationship of waste source(s) with the facility's activities.

Attachment: T-1 Facility Description

- c. Is or will wastewater from another TCEQ, NPDES, or TPDES permitted facility commingled with this facility's wastewater after final treatment and prior to discharge via the final outfall/point of disposal?

☐ Yes ☒ No

If **yes**, provide the name, address, and TCEQ, NPDES, or TPDES permit number of the contributing facility and a copy of any agreements or contracts relating to this activity.

Attachment: N/A

- d. Is this facility a POTW that accepts/will accept process wastewater from any SIU and has/is required to have an approved pretreatment program under the NPDES/TPDES program?

☐ Yes ☒ No

If **yes**, **Worksheet 6.0** of this application is required.

Item 11. Radioactive Materials (Instructions, Page 46)

- a. Are/will radioactive materials be mined, used, stored, or processed at this facility?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L.

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material Name	Concentration (pCi/L)
N/A	

- b. Does the applicant or anyone at the facility have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L. Do not include information provided in response to Item 11.a.

Radioactive Materials Present in the Discharge

Radioactive Material Name	Concentration (pCi/L)
NORM can be present in equipment used to manage gases such as natural gas, ethylene, and propylene. Radium 226 and Radium 228 can be present in the NORM equipment. NORM accumulates on the sides of vessels (e.g., elbows, valves) as scale. If the vessel/pipe is taken out of service and tests positive for NORM, it is removed and replaced with new material. If the equipment will be reused (e.g., a pump), it will be sent off-site for cleaning and service. No NORM is intentionally washed down to wastewater treatment.	N/A

Item 12. Cooling Water (Instructions, Page 46)

a. Does the facility use or propose to use water for cooling purposes?

- ☒ Yes
- ☐ No
- ☐ Decommissioned: N/A
- ☐ To Be Decommissioned: N/A

If **yes**, complete Items 12.b thru 12.f. If **no**, stop here.

If **decommissioned**, provide the date operation ceased and stop here.

If **to be decommissioned**, provide the date operation is anticipated to cease and stop here.

b. Cooling water is/will be obtained from a groundwater source (e.g., on-site well).

- ☐ Yes ☒ No

If **yes**, stop here. If **no**, continue.

c. Cooling Water Supplier

1. Provide the name of the owner(s) and operator(s) for the CWIS that supplies or will supply water for cooling purposes to the facility.

Cooling Water Intake Structure(s) Owner(s) and Operator(s)

CWIS ID	Intakes on Lake Houston (S1010013C, S1010013D, S1010013E - IDs in TCEQ's PWS database)
Owner	City of Houston
Operator	Coastal Water Authority

2. Cooling water is/will be obtained from a Public Water Supplier (PWS)

- ☐ No ☒ Yes; PWS No.: PWS No. TX1010013

If **no**, continue. If **yes**, provide the PWS Registration No. and stop here.

3. Cooling water is/will be obtained from a reclaimed water source?

- ☐ No ☐ Yes; Auth No.: N/A

If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here.

4. Cooling water is/will be obtained from an Independent Supplier

- ☐ No ☐ Yes; AIF: N/A

If **no**, proceed to Item 12.d. If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes and proceed.

d. 316(b) General Criteria

1. The CWIS(s) used to provide water for cooling purposes to the facility has or will have a cumulative design intake flow of 2 MGD or greater.

☐ Yes ☐ No

2. At least 25% of the total water withdrawn by the CWIS(s) is/will be used at the facility exclusively for cooling purposes on an annual average basis.

☐ Yes ☐ No

3. The CWIS(s) withdraw(s)/propose(s) to withdraw water for cooling purposes from surface waters that meet the definition of Waters of the United States in *40 CFR § 122.2*.

☐ Yes ☐ No. Explanation: N/A

If **no**, provide an explanation of how the waterbody does not meet the definition of Waters of the United States in *40 CFR § 122.2*.

If **yes** to all three questions in Item 12.d, the facility **meets** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA. Proceed to **Item 12.f**.

If **no** to any of the questions in Item 12.d, the facility **does not meet** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA; however, a determination is required based upon BPJ. Proceed to **Item 12.e**.

- e. The facility does not meet the minimum requirements to be subject to the fill requirements of Section 316(b) **and uses/proposes to use cooling towers**.

☐ Yes ☐ No

If **yes**, stop here. If **no**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ.

f. Oil and Gas Exploration and Production

1. The facility is subject to requirements at 40 CFR Part 435, Subparts A or D.

☐ Yes ☐ No

If **yes**, continue. If **no**, skip to Item 12.g.

2. The facility is an existing facility as defined at 40 CFR § 125.92(k) or a new unit at an existing facility as defined at 40 CFR § 125.92(u).

☐ Yes ☐ No

If **yes**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ. If **no**, skip to Item 12.g.3.

g. Compliance Phase and Track Selection

1. Phase I – New facility subject to 40 CFR Part 125, Subpart I

☐ Yes ☐ No

If **yes**, check the box next to the compliance track selection, attach the requested information, and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – AIF greater than 2 MGD, but less than 10 MGD

- Attach information required by *40 CFR §§ 125.86(b)(2)-(4)*.

- ☐ Track I - AIF greater than 10 MGD
 - Attach information required by *40 CFR § 125.86(b)*.
- ☐ Track II
 - Attach information required by *40 CFR § 125.86(c)*.

Attachment: N/A

2. Phase II - Existing facility subject to 40 CFR Part 125, Subpart J

☐ Yes ☐ No

If **yes**, complete Worksheets 11.0 through 11.3, as applicable.

3. Phase III - New facility subject to 40 CFR Part 125, Subpart N

☐ Yes ☐ No

If **yes**, check the box next to the compliance track selection and provide the requested information.

- ☐ Track I - Fixed facility
 - Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.
- ☐ Track I - Not a fixed facility
 - Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except CWIS latitude/longitude under Item 2.a).
- ☐ Track II - Fixed facility
 - Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: N/A

Item 13. Permit Change Requests (Instructions, Page 48)

This item is only applicable to existing permitted facilities.

- a. Is the facility requesting a **major amendment** of an existing permit?

☐ Yes ☒ No

If **yes**, list each request individually and provide the following information: 1) detailed information regarding the scope of each request and 2) a justification for each request. Attach any supplemental information or additional data to support each request.

N/A

- b. Is the facility requesting any **minor amendments** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

N/A

- c. Is the facility requesting any **minor modifications** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

N/A

Item 14. Laboratory Accreditation (Instructions, Page 49)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
 - periodically inspected by the TCEQ; or
 - located in another state and is accredited or inspected by that state; or
 - performing work for another company with a unit located in the same site; or
 - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements.

The following certification statement shall be signed and submitted with every application. See the *Signature Page* section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*.

Printed Name: Anthony Wood

Title: Site Manager

Signature: Signed as part of STEERS online application

Date:

INDUSTRIAL WASTEWATER PERMIT APPLICATION

WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

This worksheet **is required** for all applications for TPDES permits for discharges of wastewaters subject to EPA categorical effluent limitation guidelines (ELGs).

Item 1. Categorical Industries (Instructions, Page 53)

Is this facility subject to any 40 CFR categorical ELGs outlined on page 53 of the instructions?

☒ Yes ☐ No

If **no**, this worksheet is not required. If **yes**, provide the appropriate information below.

40 CFR Effluent Guideline

Industry	40 CFR Part
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414

Item 15. Production/Process Data (Instructions, Page 54)

NOTE: For all TPDES permit applications requesting individual permit coverage for discharges of oil and gas exploration and production wastewater (discharges into or adjacent to water in the state, falling under the Oil and Gas Extraction Effluent Guidelines – 40 CFR Part 435), see Worksheet 12.0, Item 2 instead.

a. Production Data

Provide appropriate data for effluent guidelines with production-based effluent limitations.

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
N/A			

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (40 CFR Part 414)

Provide each applicable subpart and the percent of total production. Provide data for metal-bearing and cyanide-bearing wastestreams, as required by *40 CFR Part 414, Appendices A and B*.

Percentage of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide
Subpart D Thermoplastic Resins	0.2%	N/A	N/A
Subpart F Commodity Organic Chemicals	69.5%	Chromium - Methanol/high pressure synthesis from natural gas via synthetic gas Copper - Isopropanol/catalytic hydrogenation of acetone - Methanol/high pressure synthesis from natural gas via synthetic gas - Methanol/low pressure synthesis from natural gas via synthetic gas Nickel - Methanol/high pressure synthesis from natural gas via synthetic gas - Methanol/low pressure synthesis from natural gas via synthetic gas Zinc - Methanol/low pressure synthesis from natural gas via synthetic gas	
Subpart G Bulk Organic Chemicals	30.3%	N/A	
Subpart I End-of-Pipe Biological Treatment	N/A	N/A	

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

N/A

Item 16. Process/Non-Process Wastewater Flows (Instructions, Page 54)

Provide a breakdown of wastewater flow(s) generated by the facility, including both process and non-process wastewater flow(s). Specify which wastewater flows are to be authorized for discharge under this permit and the disposal practices for wastewater flows, excluding domestic, which are not to be authorized for discharge under this permit.

See Attachment T-1 Facility Description, Table 3 Wastewater Flows by Outfall.

Item 17. New Source Determination (Instructions, Page 54)

Provide a list of all wastewater-generating processes subject to EPA categorical ELGs, identify the appropriate guideline Part and Subpart, and provide the date the process/construction commenced.

Wastewater Generating Processes Subject to Effluent Guidelines

Process	EPA Guideline Part	EPA Guideline Subpart	Date Process/ Construction Commenced
Polybutadiene	414	D	1969
Benzene/Toluene	414	F	1975
Ethylene/Propylene	414	F	1974
Isopropanol	414	F	1974
Methanol	414	F	1982
Alkylate	414	G	1957
Isobutylene	414	G	2006
Methyl tert-butyl ether (MTBE)	414	G	1979
In 2019, the Styrene/Maleic Anhydride (SMA) Unit was permanently shut down and de-inventoried.			

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

- a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 08/05/2025 – 08/27/2025
- b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.
- c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm.
Attachment: See below.

Contract Laboratories for Outfall Analyses	
Parameters	Laboratory
Dissolved oxygen, pH, temperature, total residual chlorine	Equistar Chemicals, LP (permittee)
Color, surfactants	ALS Laboratory Group, Houston 10450 Stancliff Road, Suite 210 Houston, TX 77099 Accreditation ID: T104704231
Bisphenol A, cyanide, Kjeldahl nitrogen, mercury, nonylphenol, PCBs, pesticides, semivolatiles	A&B Environmental 10100 East Freeway, Suite 100 Houston, TX 77029 Accreditation ID: T104704213
All other analytes	Enthalpy Analytical 2525 W. Bellfort Ave., Suite 185 Houston, TX 77054 Accreditation ID: T104704226

Item 18. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** N/A

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications.

Table 1 for Outfall No.: 001Samples are (check one): ☒ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	05-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25
BOD (5-day)	3.2	3.3	2.4	<2.
CBOD (5-day)	<2.	<2.	<2.	2.
Chemical oxygen demand	62.	61.	59.	59
Total organic carbon	23.	21.	22.	24.
Dissolved oxygen	3.4-3.9	2.6-4.2	5.0-6.2	2.0-3.3
Ammonia nitrogen	1.43	0.286	<0.25	<0.25
Total suspended solids	5.2	7.8	6.2	9.2
Nitrate nitrogen	1.18	1.66	0.961	2.28
Total organic nitrogen	1.56	1.49	1.39	0.937
Total phosphorus	2.2	2.1	1.8	1.9
Oil and grease	<5.	<5.	<5.	<5.
Total residual chlorine	0.	0	0	0.
Total dissolved solids	2050.	1810.	2040.	2260.
Sulfate	1040.	924.	932.	1170.
Chloride	133.	130.	149.	154.
Fluoride	0.59	0.55	0.56	0.71
Total alkalinity (mg/L as CaCO ₃)	162.	176.	156.	204.
Temperature (°F)	100-102	98-103	100-103	97-100
pH (standard units)	7.3-7.4	7.3-7.6	7.4-8.6	7.4-7.5

Table 2 for Outfall No.: 001Samples are (check one): ☒ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
	05-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
Aluminum, total	75.3	76.1	71.3	189.	2.5
Antimony, total	1.62	1.78	1.77	1.69	5
Arsenic, total	11.1	11.8	12.5	14.1	0.5
Barium, total	177.	178.	180.	196.	3
Beryllium, total	<0.4	<0.4	<0.4	<0.4	0.5
Cadmium, total	<0.2	<0.2	<0.2	<0.2	1
Chromium, total	1.5	1.62	1.78	2.14	3
Chromium, hexavalent	<5.	<5.	<5.	<5.	3
Chromium, trivalent	1.5	1.62	1.78	2.14	N/A
Copper, total	11.1	11.6	9.86	11.5	2
Cyanide, available	3.6	3.5	3.3	3.8	2/10
Lead, total	<0.4	<0.4	0.426	0.564	0.5
Mercury, total	0.0112	0.00744	0.00777	0.0157	0.005/0.0005
Nickel, total	6.72	7.34	6.22	6.09	2
Selenium, total	<1.6	<1.6	<1.6	<1.6	5
Silver, total	<0.2	<0.2	<0.2	<0.2	0.5
Thallium, total	<0.2	<0.2	<0.2	<0.5	0.5
Zinc, total	24.4	24.8	24.9	27.7	5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 is required for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 is required for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 3 for Outfall No.: 001

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
	05-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
Acrylonitrile	<14.	<14.	<14.	<14.	50
Anthracene	<0.41	<0.41	<0.39	<0.38	10
Benzene	<1.	<1.	<1.	<1.	10
Benzidine	<0.78	<0.77	<0.73	<0.71	50
Benzo(a)anthracene	<0.45	<0.44	<0.42	<0.41	5
Benzo(a)pyrene	<1.	<0.99	<0.94	<0.92	5
Bis(2-chloroethyl)ether	<0.85	<0.84	<0.79	<0.78	10
Bis(2-ethylhexyl)phthalate	<2.6	<2.6	<2.4	<2.4	10
Bromodichloromethane [Dichlorobromomethane]	<1.	<1.	<1.	<1.	10
Bromoform	<2.	<2.	<2.	<2.	10
Carbon tetrachloride	<1.	<1.	<1.	<1.	2
Chlorobenzene	<1.	<1.	<1.	<1.	10
Chlorodibromomethane [Dibromochloromethane]	<2.	<2.	<2.	<2.	10
Chloroform	7.	8.	10.	11.	10
Chrysene	<0.67	<0.66	<0.63	<0.62	5
m-Cresol [3-Methylphenol] †	<1.6	<1.5	<1.5	<1.4	10
o-Cresol [2-Methylphenol]	<1.2	<1.2	<1.1	<1.1	10
p-Cresol [4-Methylphenol] †	<1.6	<1.5	<1.5	<1.4	10
1,2-Dibromoethane	<1.	<1.	<1.	<1.	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.63	<0.61	<0.58	<0.57	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.48	<0.48	<0.45	<0.44	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.3	<0.29	<0.28	<0.27	10
3,3'-Dichlorobenzidine	<1.	<1.	<0.97	<0.95	5
1,2-Dichloroethane	<1.	<1.	<1.	<1.	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.	<1.	<1.	<1.	10
Dichloromethane [Methylene chloride]	<1.	2.	<1.	<1.	20
1,2-Dichloropropane	<0.9	<0.9	<0.9	<0.9	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.	<1.	<1.	<1.	10
2,4-Dimethylphenol	<0.63	<0.61	<0.58	<0.57	10
Di-n-Butyl phthalate	<1.4	<1.4	<1.3	<1.3	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Epichlorohydrin (1-Chloro-2,3-epoxypropane) ††	ND	ND	ND	ND	---
Ethylbenzene	<1.	<1.	<1.	<1.	10
Ethylene Glycol	<25000.	<25000.	<25000.	<25000.	---
Fluoride	590.	550.	560.	710.	500
Hexachlorobenzene	<0.81	<0.8	<0.76	<0.75	5
Hexachlorobutadiene	<0.48	<0.48	<0.45	<0.44	10
Hexachlorocyclopentadiene	<0.41	<0.41	<0.39	<0.38	10
Hexachloroethane	<0.55	<0.55	<0.52	<0.51	20
4,4'-Isopropylidenediphenol (bisphenol A)	<5.2	<5.05	<5.05	<5.45	1
Methyl ethyl ketone	3.	<2.	<2.	4.	50
Methyl tert-butyl ether (MTBE)	2.	<1.	<1.	<1.	---
Nitrobenzene	<1.1	<1.1	<1.	<0.98	10
N-Nitrosodiethylamine	<5.9	<5.8	<5.5	<5.4	20
N-Nitroso-di-n-butylamine	<5.9	<5.8	<5.5	<5.4	20
Nonylphenol	<5.2	<5.05	<5.05	<5.45	333
Pentachlorobenzene	<3.5	<3.5	<3.3	<3.2	20
Pentachlorophenol	<0.59	<0.58	<0.55	<0.54	5
Phenanthrene	<0.52	<0.51	<0.48	<0.48	10
Polychlorinated biphenyls (PCBs) (**)	<0.03	<0.03	<0.03	<0.03	0.2
Pyridine	<0.41	<0.41	<0.39	<0.38	20
1,2,4,5-Tetrachlorobenzene	<5.9	<5.8	<5.5	<5.4	20
1,1,2,2-Tetrachloroethane	<3.	<3.	<3.	<3.	10
Tetrachloroethene [Tetrachloroethylene]	<1.	<1.	<1.	0.1	10
Toluene	<0.7	<0.7	<0.7	0.9	10
1,1,1-Trichloroethane	<1.	<1.	<1.	<1.	10
1,1,2-Trichloroethane	<1.	<1.	<1.	<1.	10
Trichloroethene [Trichloroethylene]	<0.7	<0.7	<0.7	<0.7	10
2,4,5-Trichlorophenol	<1.	<0.99	<0.94	<0.92	50
TTHM (Total trihalomethanes)	7.	8.	10.	11.	10
Vinyl chloride	<1.	<1.	<1.	<1.	10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

† *m*-cresol and *p*-cresol reported as combined by 625.1, laboratory has accreditation by 8270.

†† Epichlorohydrin analyzed by 624.1, laboratory has accreditation by 8260.

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

a. Tributyltin

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

- ☐ Manufacturers and formulators of tributyltin or related compounds.
- ☐ Painting of ships, boats and marine structures.
- ☐ Ship and boat building and repairing.
- ☐ Ship and boat cleaning, salvage, wrecking and scaling.
- ☐ Operation and maintenance of marine cargo handling facilities and marinas.
- ☐ Facilities engaged in wood preserving.
- ☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. Enterococci (discharge to saltwater)

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☒ Yes ☐ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

c. E. coli (discharge to freshwater)

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☒ Yes ☐ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 4 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAI
Tributyltin (µg/L)	N/A	N/A	N/A	N/A	0.010
Enterococci (cfu or MPN/100 mL)	Enterococci is monitored at internal Outfalls 101 and 201 in the TPDES permit.				N/A
<i>E. coli</i> (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (<i>alpha</i>)					0.01
Endosulfan II (<i>beta</i>)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (<i>alpha</i>)					0.05
Hexachlorocyclohexane (<i>beta</i>)					0.05
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 is required for all external outfalls.

Table 6 for Outfall No.: **001**

Samples are (check one): ☒ Composite ☒ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
			5-Aug-25	-	-	-	
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	25.	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	2.31	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO ₃)	☒	☐	-	-	-	-	—
Surfactants	☒	☐	0.168	-	-	-	—
Boron, total	☒	☐	0.327	-	-	-	20
Cobalt, total	☒	☐	0.000218	-	-	-	0.3
Iron, total	☒	☐	0.18	-	-	-	7
Magnesium, total	☒	☐	7.02	-	-	-	20
Manganese, total	☒	☐	0.0197	-	-	-	0.5
Molybdenum, total	☒	☐	0.0507	-	-	-	1
Tin, total	☒	☐	0.0179	-	-	-	5
Titanium, total	☒	☐	0.00254	-	-	-	30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☒ Organic Chemicals Manufacturing	414	☒ Yes	☒ Yes	☒ Yes	☒ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☒ Plastic and Synthetic Materials Manufacturing	414	☒ Yes	☒ Yes	☒ Yes	☒ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☐ Steam Electric Power Plants	423	☐ Yes	☐ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 8 for Outfall No.: **001**

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
	5-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
Acrolein	<12.	<12.	<12.	<12.	50
Acrylonitrile	<14.	<14.	<14.	<14.	50
Benzene	<1.	<1.	<1.	<1.	10
Bromoform	<2.	<2.	<2.	<2.	10
Carbon tetrachloride	<1.	<1.	<1.	<1.	2
Chlorobenzene	<1.	<1.	<1.	<1.	10
Chlorodibromomethane	<2.	<2.	<2.	<2.	10
Chloroethane	<1.	<1.	<1.	<1.	50
2-Chloroethylvinyl ether	<15.	<15.	<15.	<15.	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
Chloroform	7.	8.	10.	11.	10
Dichlorobromomethane [Bromodichloromethane]	<1.	<1.	<1.	<1.	10
1,1-Dichloroethane	<0.9	<0.9	<0.9	<0.9	10
1,2-Dichloroethane	<1.	<1.	<1.	<1.	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.	<1.	<1.	<1.	10
1,2-Dichloropropane	<0.9	<0.9	<0.9	<0.9	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.	<1.	<1.	<1.	10
Ethylbenzene	<1.	<1.	<1.	<1.	10
Methyl bromide [Bromomethane]	<1.	<1.	<1.	<1.	50
Methyl chloride [Chloromethane]	<0.8	<0.8	<0.8	<0.8	50
Methylene chloride [Dichloromethane]	<1.	2.	<1.	<1.	20
1,1,2,2-Tetrachloroethane	<3.	<3.	<3.	<3.	10
Tetrachloroethylene [Tetrachloroethene]	<1.	<1.	<1.	0.1	10
Toluene	<0.7	<0.7	<0.7	0.9	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.	<1.	<1.	<1.	10
1,1,1-Trichloroethane	<1.	<1.	<1.	<1.	10
1,1,2-Trichloroethane	<1.	<1.	<1.	<1.	10
Trichloroethylene [Trichloroethene]	<0.7	<0.7	<0.7	<0.7	10
Vinyl chloride	<1.	<1.	<1.	<1.	10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: **001**

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
	5-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
2-Chlorophenol	<0.59	<0.58	<0.55	<0.54	10
2,4-Dichlorophenol	<0.81	<0.8	<0.76	<0.75	10
2,4-Dimethylphenol	<0.63	<0.61	<0.58	<0.57	10
4,6-Dinitro-o-cresol	<0.78	<0.77	<0.73	<0.71	50
2,4-Dinitrophenol	<1.7	<1.6	<1.6	<1.5	50
2-Nitrophenol	<1.	<1.	<0.97	<0.95	20
4-Nitrophenol	<1.3	<1.3	<1.2	<1.2	50
p-Chloro-m-cresol	<0.63	<0.61	<0.58	<0.57	10
Pentachlorophenol	<0.59	<0.58	<0.55	<0.54	5
Phenol	<0.52	<0.51	<0.48	<0.48	10
2,4,6-Trichlorophenol	<0.93	<0.92	<0.87	<0.85	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 001Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	5-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
Acenaphthene	<0.33	<0.32	<0.31	<0.3	10
Acenaphthylene	<0.55	<0.55	<0.52	<0.51	10
Anthracene	<0.41	<0.41	<0.39	<0.38	10
Benzidine	<0.78	<0.77	<0.73	<0.71	50
Benzo(a)anthracene	<0.45	<0.44	<0.42	<0.41	5
Benzo(a)pyrene	<1.	<0.99	<0.94	<0.92	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.67	<0.66	<0.63	<0.62	10
Benzo(ghi)perylene	<0.74	<0.73	<0.69	<0.68	20
Benzo(k)fluoranthene	<0.67	<0.66	<0.63	<0.62	5
Bis(2-chloroethoxy)methane	<0.41	<0.41	<0.39	<0.38	10
Bis(2-chloroethyl)ether	<0.85	<0.84	<0.79	<0.78	10
Bis(2-chloroisopropyl)ether	<1.	<0.99	<0.94	<0.92	10
Bis(2-ethylhexyl)phthalate	<2.6	<2.6	<2.4	<2.4	10
4-Bromophenyl phenyl ether	<0.48	<0.48	<0.45	<0.44	10
Butylbenzyl phthalate	<0.81	<0.8	<0.76	<0.75	10
2-Chloronaphthalene	<0.33	<0.32	<0.31	<0.3	10
4-Chlorophenyl phenyl ether	<0.78	<0.77	<0.73	<0.71	10
Chrysene	<0.67	<0.66	<0.63	<0.62	5
Dibenzo(a,h)anthracene	<0.81	<0.8	<0.76	<0.75	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.48	<0.48	<0.45	<0.44	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.63	<0.61	<0.58	<0.57	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.3	<0.29	<0.28	<0.27	10
3,3'-Dichlorobenzidine	<1.	<1.	<0.97	<0.95	5
Diethyl phthalate	<0.74	<0.73	<0.69	<0.68	10
Dimethyl phthalate	<0.85	<0.84	<0.79	<0.78	10
Di-n-butyl phthalate	<1.4	<1.4	<1.3	<1.3	10
2,4-Dinitrotoluene	<1.1	<1.1	<1.1	<1.	10
2,6-Dinitrotoluene	<1.4	<1.4	<1.3	<1.3	10
Di-n-octyl phthalate	<3.3	<3.2	<3.	<3.	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.26	<0.26	<0.24	<0.24	20
Fluoranthene	<0.52	<0.51	<0.48	<0.48	10
Fluorene	<0.55	<0.55	<0.52	<0.51	10
Hexachlorobenzene	<0.81	<0.8	<0.76	<0.75	5
Hexachlorobutadiene	<0.48	<0.48	<0.45	<0.44	10
Hexachlorocyclopentadiene	<0.41	<0.41	<0.39	<0.38	10
Hexachloroethane	<0.55	<0.55	<0.52	<0.51	20
Indeno(1,2,3-cd)pyrene	<0.26	<0.26	<0.24	<0.24	5
Isophorone	<0.33	<0.32	<0.31	<0.3	10
Naphthalene	<0.37	<0.36	<0.34	<0.33	10
Nitrobenzene	<1.1	<1.1	<1.	<0.98	10
N-Nitrosodimethylamine	<0.93	<0.92	<0.87	<0.85	50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
N-Nitrosodi-n-propylamine	<0.85	<0.84	<0.79	<0.78	20
N-Nitrosodiphenylamine	<0.55	<0.55	<0.52	<0.51	20
Phenanthrene	<0.52	<0.51	<0.48	<0.48	10
Pyrene	<0.67	<0.66	<0.63	<0.62	10
1,2,4-Trichlorobenzene	<0.63	<0.61	<0.58	<0.57	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 001

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
	5-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
Aldrin	<0.042	<0.02	<0.004	<0.004	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.032	<0.015	<0.003	<0.003	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.042	<0.02	<0.004	<0.004	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.042	<0.02	<0.004	<0.004	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.063	<0.03	<0.007	<0.006	0.05
Chlordane	<1.05	<0.5	<0.109	<0.1	0.2
4,4'-DDT	<0.042	<0.02	<0.004	<0.004	0.02
4,4'-DDE	<0.095	<0.045	<0.01	<0.009	0.1
4,4'-DDD	<0.021	<0.01	<0.002	<0.002	0.1
Dieldrin	<0.053	<0.025	<0.006	<0.005	0.02
Endosulfan I (alpha)	<0.074	<0.035	<0.008	<0.007	0.01
Endosulfan II (beta)	<0.042	<0.02	<0.004	<0.004	0.02
Endosulfan sulfate	<0.053	<0.025	<0.006	<0.005	0.1
Endrin	<0.042	<0.02	<0.004	<0.004	0.02
Endrin aldehyde	<0.032	<0.015	<0.003	<0.003	0.1
Heptachlor	<0.042	<0.02	<0.004	<0.004	0.01
Heptachlor epoxide	<0.042	<0.02	<0.004	<0.004	0.01
PCB 1242	<0.0017	<0.0017	<0.0018	<0.0019	0.2
PCB 1254	<0.01	<0.0047	<0.01	<0.01	0.2
PCB 1221	<0.02	<0.02	<0.02	<0.02	0.2
PCB 1232	<0.01	<0.0049	<0.01	<0.01	0.2
PCB 1248	<0.01	<0.01	<0.01	<0.01	0.2
PCB 1260	<0.03	<0.03	<0.03	<0.03	0.2
PCB 1016	<0.03	<0.03	<0.03	<0.03	0.2
Toxaphene	<1.05	<0.5	<0.109	<0.1	0.3

* Indicate units if different from µg/L.

Attachment: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

- ☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnell) CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- ☐ hexachlorophene (HCP) CASRN 70-30-4
- ☒ None of the above

Description: N/A

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

- ☐ Yes ☒ No

Description: N/A

If **yes** to either Items a or b, complete Table 12 as instructed.

Table 12 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☒ Yes ☐ No

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 13 for Outfall No.: **001**

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
		5-Aug-25	12-Aug-25	19-Aug-25	26-Aug-25	
Vanadium, total	7440-62-2	6.95	6.63	7.35	9.94	200.8

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 is **required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

- a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 08/05/2025 – 08/26/2025
- b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.
- c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm.
Attachment: See Worksheet 2, Outfall 001.

Item 19. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** N/A

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications.

Table 14 for Outfall No.: 002Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	05-Aug-25	13-Aug-25	20-Aug-25	26-Aug-25
BOD (5-day)	2.7	<2.	<2.	<2.
CBOD (5-day)	<2.	<2.	<2.	5.3
Chemical oxygen demand	23.	14.	<10.	13.
Total organic carbon	5.9	3.7	2.5	4.4
Dissolved oxygen	-	-	-	-
Ammonia nitrogen	<0.25	0.808	<0.25	<0.25
Total suspended solids	38.	<5.	8.	6.4
Nitrate nitrogen	0.553	<0.5	<0.5	<0.5
Total organic nitrogen	0.572	0.053	<0.02	0.1
Total phosphorus	0.2	0.15	0.093	0.14
Oil and grease	<5.	<5.	<5.	<5.
Total residual chlorine	-	-	-	-
Total dissolved solids	200.	156.	298.	264.
Sulfate	22.2	22.7	14.9	19.2
Chloride	18.8	19.3	29.7	32.2
Fluoride	<0.5	<0.5	0.55	<0.5
Total alkalinity (mg/L as CaCO ₃)	94.	96.	188.	144.
Temperature (°F)	-	-	-	-
pH (standard units)	-	-	-	-

Table 15 for Outfall No.: 002Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
	05-Aug-25	13-Aug-25	20-Aug-25	26-Aug-25	
Aluminum, total	2070.	202.	277.	248.	2.5
Antimony, total	1.06	<1.	<1.	<1.	5
Arsenic, total	3.89	3.88	4.7	4.06	0.5
Barium, total	85.9	65.4	83.9	92.4	3
Beryllium, total	<0.4	<0.4	<0.4	<0.4	0.5
Cadmium, total	<0.2	<0.2	<0.2	<0.2	1
Chromium, total	5.73	0.687	0.798	0.639	3
Chromium, hexavalent	<5.	<5.	<5.	<5.	3
Chromium, trivalent	5.73	0.687	0.798	0.639	N/A
Copper, total	6.52	3.23	1.76	2.02	2
Cyanide, available	0.8	1.3	<0.47	<0.47	2/10
Lead, total	2.66	0.783	0.588	0.482	0.5
Mercury, total	0.000578	0.00121	0.00104	0.000397	0.005/0.0005
Nickel, total	3.6	1.48	1.29	1.5	2
Selenium, total	<1.6	<1.6	<1.6	<1.6	5
Silver, total	<0.2	<0.2	<0.2	<0.2	0.5
Thallium, total	<0.2	<0.2	<0.2	<0.2	0.5
Zinc, total	76.5	15.	15.7	12.5	5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 is required for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 is required for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 16 for Outfall No.: 002

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
	05-Aug-25	13-Aug-25	20-Aug-25	26-Aug-25	
Acrylonitrile	<14.	-	-	-	50
Anthracene	<1.8	-	-	-	10
Benzene	<1.	-	-	-	10
Benzidine	<3.4	-	-	-	50
Benzo(a)anthracene	<2.	-	-	-	5
Benzo(a)pyrene	<4.4	-	-	-	5
Bis(2-chloroethyl)ether	<3.8	-	-	-	10
Bis(2-ethylhexyl)phthalate	<11.	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<1.	-	-	-	10
Bromoform	<2.	-	-	-	10
Carbon tetrachloride	<1.	-	-	-	2
Chlorobenzene	<1.	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<2.	-	-	-	10
Chloroform	1.	-	-	-	10
Chrysene	<3.	-	-	-	5
m-Cresol [3-Methylphenol] †	<6.9	-	-	-	10
o-Cresol [2-Methylphenol]	<5.2	-	-	-	10
p-Cresol [4-Methylphenol] †	<6.9	-	-	-	10
1,2-Dibromoethane	<1.	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<2.8	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<2.1	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1.3	-	-	-	10
3,3'-Dichlorobenzidine	<4.6	-	-	-	5
1,2-Dichloroethane	<1.	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.	-	-	-	10
Dichloromethane [Methylene chloride]	<1.	-	-	-	20
1,2-Dichloropropane	<0.9	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.	-	-	-	10
2,4-Dimethylphenol	<2.8	-	-	-	10
Di-n-Butyl phthalate	<6.4	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Epichlorohydrin (1-Chloro-2,3-epoxypropane) ††	ND	-	-	-	---
Ethylbenzene	<1.	-	-	-	10
Ethylene Glycol	<25000.	-	-	-	---
Fluoride	<500.	<500.	550.	<500.	500
Hexachlorobenzene	<3.6	-	-	-	5
Hexachlorobutadiene	<2.1	-	-	-	10
Hexachlorocyclopentadiene	<1.8	-	-	-	10
Hexachloroethane	<2.4	-	-	-	20
4,4'-Isopropylidenediphenol (bisphenol A)	<26.1	-	-	-	1
Methyl ethyl ketone	<2.	-	-	-	50
Methyl tert-butyl ether (MTBE)	<1.	-	-	-	---
Nitrobenzene	<4.7	-	-	-	10
N-Nitrosodiethylamine	<26.	-	-	-	20
N-Nitroso-di-n-butylamine	<26.	-	-	-	20
Nonylphenol	<26.1	-	-	-	333
Pentachlorobenzene	<16.	-	-	-	20
Pentachlorophenol	<2.6	-	-	-	5
Phenanthrene	<2.3	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.03	-	-	-	0.2
Pyridine	<1.8	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<26.	-	-	-	20
1,1,2,2-Tetrachloroethane	<3.	-	-	-	10
Tetrachloroethene [Tetrachloroethylene]	<1.	-	-	-	10
Toluene	<0.7	-	-	-	10
1,1,1-Trichloroethane	<1.	-	-	-	10
1,1,2-Trichloroethane	<1.	-	-	-	10
Trichloroethene [Trichloroethylene]	<0.7	-	-	-	10
2,4,5-Trichlorophenol	<4.4	-	-	-	50
TTHM (Total trihalomethanes)	1.	-	-	-	10
Vinyl chloride	<1.	-	-	-	10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

† *m*-cresol and *p*-cresol reported as combined by 625.1, laboratory has accreditation by 8270.

†† Epichlorohydrin analyzed by 624.1, laboratory has accreditation by 8260.

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

d. Tributyltin

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

- ☐ Manufacturers and formulators of tributyltin or related compounds.
- ☐ Painting of ships, boats and marine structures.
- ☐ Ship and boat building and repairing.
- ☐ Ship and boat cleaning, salvage, wrecking and scaling.
- ☐ Operation and maintenance of marine cargo handling facilities and marinas.
- ☐ Facilities engaged in wood preserving.
- ☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

e. Enterococci (discharge to saltwater)

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

f. E. coli (discharge to freshwater)

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 17 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)	N/A	N/A	N/A	N/A	0.010
Enterococci (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A
<i>E. coli</i> (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 18 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (<i>alpha</i>)					0.01
Endosulfan II (<i>beta</i>)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (<i>alpha</i>)					0.05
Hexachlorocyclohexane (<i>beta</i>)					0.05
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 is required for all external outfalls.

Table 19 for Outfall No.: 002

Samples are (check one): ☐ Composite ☒ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
			05-Aug-25	-	-	-	
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	35.	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	0.553	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO ₃)	☐	☒	-	-	-	-	—
Surfactants	☒	☐	0.103	-	-	-	—
Boron, total	☒	☐	0.0762	-	-	-	20
Cobalt, total	☒	☐	0.000506	-	-	-	0.3
Iron, total	☒	☐	1.35	-	-	-	7
Magnesium, total	☒	☐	2.3	-	-	-	20
Manganese, total	☒	☐	0.0496	-	-	-	0.5
Molybdenum, total	☒	☐	0.0109	-	-	-	1
Tin, total	☒	☐	0.00339	-	-	-	5
Titanium, total	☒	☐	0.0656	-	-	-	30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☒ N/A

Table 20 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☐ Steam Electric Power Plants	423	☐ Yes	☐ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 21 for Outfall No.: **002**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	
Acrolein	<12.	-	-	-	50
Acrylonitrile	<14.	-	-	-	50
Benzene	<1.	-	-	-	10
Bromoform	<2.	-	-	-	10
Carbon tetrachloride	<1.	-	-	-	2
Chlorobenzene	<1.	-	-	-	10
Chlorodibromomethane	<2.	-	-	-	10
Chloroethane	<1.	-	-	-	50
2-Chloroethylvinyl ether	<15.	-	-	-	10
Chloroform	1.	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Dichlorobromomethane [Bromodichloromethane]	<1.	-	-	-	10
1,1-Dichloroethane	<0.9	-	-	-	10
1,2-Dichloroethane	<1.	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.	-	-	-	10
1,2-Dichloropropane	<0.9	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.	-	-	-	10
Ethylbenzene	<1.	-	-	-	10
Methyl bromide [Bromomethane]	<1.	-	-	-	50
Methyl chloride [Chloromethane]	<0.8	-	-	-	50
Methylene chloride [Dichloromethane]	<1.	-	-	-	20
1,1,2,2-Tetrachloroethane	<3.	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1.	-	-	-	10
Toluene	<0.7	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.	-	-	-	10
1,1,1-Trichloroethane	<1.	-	-	-	10
1,1,2-Trichloroethane	<1.	-	-	-	10
Trichloroethylene [Trichloroethene]	<0.7	-	-	-	10
Vinyl chloride	<1.	-	-	-	10

* Indicate units if different from µg/L.

Table 22 for Outfall No.: **002**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	
2-Chlorophenol	<2.6	-	-	-	10
2,4-Dichlorophenol	<3.6	-	-	-	10
2,4-Dimethylphenol	<2.8	-	-	-	10
4,6-Dinitro-o-cresol	<3.4	-	-	-	50
2,4-Dinitrophenol	<7.3	-	-	-	50
2-Nitrophenol	<4.6	-	-	-	20
4-Nitrophenol	<5.9	-	-	-	50
p-Chloro-m-cresol	<2.8	-	-	-	10
Pentachlorophenol	<2.6	-	-	-	5
Phenol	<2.3	-	-	-	10
2,4,6-Trichlorophenol	<4.1	-	-	-	10

* Indicate units if different from µg/L.

Table 23 for Outfall No.: **002**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<1.5	-	-	-	10
Acenaphthylene	<2.4	-	-	-	10
Anthracene	<1.8	-	-	-	10
Benidine	<3.4	-	-	-	50
Benzo(a)anthracene	<2.	-	-	-	5
Benzo(a)pyrene	<4.4	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<3.	-	-	-	10
Benzo(ghi)perylene	<3.3	-	-	-	20
Benzo(k)fluoranthene	<3.	-	-	-	5
Bis(2-chloroethoxy)methane	<1.8	-	-	-	10
Bis(2-chloroethyl)ether	<3.8	-	-	-	10
Bis(2-chloroisopropyl)ether	<4.4	-	-	-	10
Bis(2-ethylhexyl)phthalate	<11.	-	-	-	10
4-Bromophenyl phenyl ether	<2.1	-	-	-	10
Butylbenzyl phthalate	<3.6	-	-	-	10
2-Chloronaphthalene	<1.5	-	-	-	10
4-Chlorophenyl phenyl ether	<3.4	-	-	-	10
Chrysene	<3.	-	-	-	5
Dibenzo(a,h)anthracene	<3.6	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<2.1	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<2.8	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<1.3	-	-	-	10
3,3'-Dichlorobenzidine	<4.6	-	-	-	5
Diethyl phthalate	<3.3	-	-	-	10
Dimethyl phthalate	<3.8	-	-	-	10
Di-n-butyl phthalate	<6.4	-	-	-	10
2,4-Dinitrotoluene	<5.1	-	-	-	10
2,6-Dinitrotoluene	<6.4	-	-	-	10
Di-n-octyl phthalate	<14.	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<1.1	-	-	-	20
Fluoranthene	<2.3	-	-	-	10
Fluorene	<2.4	-	-	-	10
Hexachlorobenzene	<3.6	-	-	-	5
Hexachlorobutadiene	<2.1	-	-	-	10
Hexachlorocyclopentadiene	<1.8	-	-	-	10
Hexachloroethane	<2.4	-	-	-	20
Indeno(1,2,3-cd)pyrene	<1.1	-	-	-	5
Isophorone	<1.5	-	-	-	10
Naphthalene	<1.6	-	-	-	10
Nitrobenzene	<4.7	-	-	-	10
N-Nitrosodimethylamine	<4.1	-	-	-	50
N-Nitrosodi-n-propylamine	<3.8	-	-	-	20
N-Nitrosodiphenylamine	<2.4	-	-	-	20

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Phenanthrene	<2.3	-	-	-	10
Pyrene	<3.	-	-	-	10
1,2,4-Trichlorobenzene	<2.8	-	-	-	10

* Indicate units if different from µg/L.

Table 24 for Outfall No.: **002**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	
Aldrin	<0.04	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.03	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.04	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.04	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.06	-	-	-	0.05
Chlordane	<1.	-	-	-	0.2
4,4'-DDT	<0.04	-	-	-	0.02
4,4'-DDE	<0.09	-	-	-	0.1
4,4'-DDD	<0.02	-	-	-	0.1
Dieldrin	<0.05	-	-	-	0.02
Endosulfan I (alpha)	<0.07	-	-	-	0.01
Endosulfan II (beta)	<0.04	-	-	-	0.02
Endosulfan sulfate	<0.05	-	-	-	0.1
Endrin	<0.04	-	-	-	0.02
Endrin aldehyde	<0.03	-	-	-	0.1
Heptachlor	<0.04	-	-	-	0.01
Heptachlor epoxide	<0.04	-	-	-	0.01
PCB 1242	<0.0017	-	-	-	0.2
PCB 1254	<0.0047	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.0049	-	-	-	0.2
PCB 1248	<0.01	-	-	-	0.2
PCB 1260	<0.03	-	-	-	0.2
PCB 1016	<0.03	-	-	-	0.2
Toxaphene	<1.	-	-	-	0.3

* Indicate units if different from µg/L.

Attachment: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

- ☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnell) CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- ☐ hexachlorophene (HCP) CASRN 70-30-4
- ☒ None of the above

Description: N/A

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

- ☐ Yes ☒ No

Description: N/A

If **yes** to either Items a or b, complete Table 12 as instructed.

Table 25 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☒ Yes ☐ No

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 26 for Outfall No.: **002**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
		05-Aug-25	13-Aug-25	20-Aug-25	26-Aug-25	
Vanadium, total	7440-62-2	7.37	2.5	1.79	1.92	200.8

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

- a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 08/05/2025 – 08/26/2025
- b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.
- c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm.
Attachment: See Worksheet 2, Outfall 001.

Item 20. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** N/A

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications.

Table 27 for Outfall No.: 004Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	05-Aug-25	13-Aug-25	19-Aug-25	26-Aug-25
BOD (5-day)	<2.	<2.	<2.	<2.
CBOD (5-day)	<2.	<2.	<2.	<2.
Chemical oxygen demand	23.	32.	21.	20.
Total organic carbon	7.6	12.	7.2	7.
Dissolved oxygen	-	-	-	-
Ammonia nitrogen	<0.25	<0.25	<0.25	<0.25
Total suspended solids	<5.	109.	<5.	<5.
Nitrate nitrogen	<0.5	<0.5	<0.5	<0.5
Total organic nitrogen	0.382	0.2	<0.02	0.592
Total phosphorus	0.88	0.82	0.24	0.15
Oil and grease	<5.	<5.	<5.	<5.
Total residual chlorine	-	-	-	-
Total dissolved solids	281.	402.	293.	235.
Sulfate	58.5	84.7	35.1	19.
Chloride	26.1	83.5	43.	35.5
Fluoride	<0.5	<0.5	<0.5	<0.5
Total alkalinity (mg/L as CaCO ₃)	106.	104.	118.	104.
Temperature (°F)	-	-	-	-
pH (standard units)	-	-	-	-

Table 28 for Outfall No.: 004Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
	05-Aug-25	13-Aug-25	19-Aug-25	26-Aug-25	
Aluminum, total	240.	184.	152.	136.	2.5
Antimony, total	<1.	2.8	1.04	<1.	5
Arsenic, total	4.69	9.66	6.14	5.35	0.5
Barium, total	80.3	136.	79.8	84.9	3
Beryllium, total	<0.4	<0.4	<0.4	<0.4	0.5
Cadmium, total	<0.2	<0.2	<0.2	<0.2	1
Chromium, total	1.51	1.43	1.09	0.901	3
Chromium, hexavalent	<5.	<5.	<5.	<5.	3
Chromium, trivalent	1.51	1.43	1.09	0.901	N/A
Copper, total	6.07	7.98	5.41	5.24	2
Cyanide, available	0.9	1.7	0.9	<0.47	2/10
Lead, total	1.24	0.93	0.957	0.757	0.5
Mercury, total	0.0194	0.00804	0.0165	0.019	0.005/0.0005
Nickel, total	3.96	4.22	3.54	2.09	2
Selenium, total	<1.6	<1.6	<1.6	<1.6	5
Silver, total	<0.2	<0.2	<0.2	<0.2	0.5
Thallium, total	<0.2	<0.2	<0.2	<0.2	0.5
Zinc, total	31.5	26.5	20.5	19.8	5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 is required for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 is required for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 29 for Outfall No.: 004

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
	05-Aug-25	-	-	-	
Acrylonitrile	<14.	-	-	-	50
Anthracene	<0.37	-	-	-	10
Benzene	<1.	-	-	-	10
Benzidine	<0.7	-	-	-	50
Benzo(a)anthracene	<0.4	-	-	-	5
Benzo(a)pyrene	<0.9	-	-	-	5
Bis(2-chloroethyl)ether	<0.76	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.3	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<1.	-	-	-	10
Bromoform	<2.	-	-	-	10
Carbon tetrachloride	<1.	-	-	-	2
Chlorobenzene	<1.	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<2.	-	-	-	10
Chloroform	<1.	-	-	-	10
Chrysene	<0.6	-	-	-	5
m-Cresol [3-Methylphenol] †	<1.4	-	-	-	10
o-Cresol [2-Methylphenol]	<1.1	-	-	-	10
p-Cresol [4-Methylphenol] †	<1.4	-	-	-	10
1,2-Dibromoethane	<1.	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.56	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.43	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.27	-	-	-	10
3,3'-Dichlorobenzidine	<0.93	-	-	-	5
1,2-Dichloroethane	<1.	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.	-	-	-	10
Dichloromethane [Methylene chloride]	<1.	-	-	-	20
1,2-Dichloropropane	<0.9	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.	-	-	-	10
2,4-Dimethylphenol	<0.56	-	-	-	10
Di-n-Butyl phthalate	<1.3	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Epichlorohydrin (1-Chloro-2,3-epoxypropane) ††	ND	-	-	-	---
Ethylbenzene	<1.	-	-	-	10
Ethylene Glycol	<25000.	-	-	-	---
Fluoride	<500.	<500.	<500.	<500.	500
Hexachlorobenzene	<0.73	-	-	-	5
Hexachlorobutadiene	<0.43	-	-	-	10
Hexachlorocyclopentadiene	<0.37	-	-	-	10
Hexachloroethane	<0.5	-	-	-	20
4,4'-Isopropylidenediphenol (bisphenol A)	<5.3	-	-	-	1
Methyl ethyl ketone	<2.	-	-	-	50
Methyl tert-butyl ether (MTBE)	<1.	-	-	-	---
Nitrobenzene	<0.96	-	-	-	10
N-Nitrosodiethylamine	<5.3	-	-	-	20
N-Nitroso-di-n-butylamine	<5.3	-	-	-	20
Nonylphenol	<5.3	-	-	-	333
Pentachlorobenzene	<3.2	-	-	-	20
Pentachlorophenol	<0.53	-	-	-	5
Phenanthrene	<0.47	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.03	-	-	-	0.2
Pyridine	<0.37	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<5.3	-	-	-	20
1,1,2,2-Tetrachloroethane	<3.	-	-	-	10
Tetrachloroethene [Tetrachloroethylene]	<1.	-	-	-	10
Toluene	<0.7	-	-	-	10
1,1,1-Trichloroethane	<1.	-	-	-	10
1,1,2-Trichloroethane	<1.	-	-	-	10
Trichloroethene [Trichloroethylene]	<0.7	-	-	-	10
2,4,5-Trichlorophenol	<0.9	-	-	-	50
TTHM (Total trihalomethanes)	<1.	-	-	-	10
Vinyl chloride	<1.	-	-	-	10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

† *m*-cresol and *p*-cresol reported as combined by 625.1, laboratory has accreditation by 8270.

†† *Epichlorohydrin* analyzed by 624.1, laboratory has accreditation by 8260.

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

d. Tributyltin

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

- ☐ Manufacturers and formulators of tributyltin or related compounds.
- ☐ Painting of ships, boats and marine structures.
- ☐ Ship and boat building and repairing.
- ☐ Ship and boat cleaning, salvage, wrecking and scaling.
- ☐ Operation and maintenance of marine cargo handling facilities and marinas.
- ☐ Facilities engaged in wood preserving.
- ☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

e. Enterococci (discharge to saltwater)

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

f. E. coli (discharge to freshwater)

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 30 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)	N/A	N/A	N/A	N/A	0.010
Enterococci (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A
<i>E. coli</i> (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 31 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (<i>alpha</i>)					0.01
Endosulfan II (<i>beta</i>)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (<i>alpha</i>)					0.05
Hexachlorocyclohexane (<i>beta</i>)					0.05
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 is required for all external outfalls.

Table 32 for Outfall No.: 004

Samples are (check one): ☐ Composite ☒ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
			05-Aug-25	-	-	-	
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	40.	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	<0.5	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO ₃)	☐	☒	-	-	-	-	—
Surfactants	☒	☐	0.075	-	-	-	—
Boron, total	☒	☐	0.142	-	-	-	20
Cobalt, total	☐	☒	<0.0002	-	-	-	0.3
Iron, total	☒	☐	0.31	-	-	-	7
Magnesium, total	☒	☐	3.1	-	-	-	20
Manganese, total	☒	☐	0.0508	-	-	-	0.5
Molybdenum, total	☒	☐	0.012	-	-	-	1
Tin, total	☐	☒	<0.0002	-	-	-	5
Titanium, total	☒	☐	0.00171	-	-	-	30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☒ N/A

Table 33 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☐ Steam Electric Power Plants	423	☐ Yes	☐ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 34 for Outfall No.: **004**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	
Acrolein	<12.	-	-	-	50
Acrylonitrile	<14.	-	-	-	50
Benzene	<1.	-	-	-	10
Bromoform	<2.	-	-	-	10
Carbon tetrachloride	<1.	-	-	-	2
Chlorobenzene	<1.	-	-	-	10
Chlorodibromomethane	<2.	-	-	-	10
Chloroethane	<1.	-	-	-	50
2-Chloroethylvinyl ether	<15.	-	-	-	10
Chloroform	<1.	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Dichlorobromomethane [Bromodichloromethane]	<1.	-	-	-	10
1,1-Dichloroethane	<0.9	-	-	-	10
1,2-Dichloroethane	<1.	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.	-	-	-	10
1,2-Dichloropropane	<0.9	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.	-	-	-	10
Ethylbenzene	<1.	-	-	-	10
Methyl bromide [Bromomethane]	<1.	-	-	-	50
Methyl chloride [Chloromethane]	<0.8	-	-	-	50
Methylene chloride [Dichloromethane]	<1.	-	-	-	20
1,1,2,2-Tetrachloroethane	<3.	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1.	-	-	-	10
Toluene	<0.7	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.	-	-	-	10
1,1,1-Trichloroethane	<1.	-	-	-	10
1,1,2-Trichloroethane	<1.	-	-	-	10
Trichloroethylene [Trichloroethene]	<0.7	-	-	-	10
Vinyl chloride	<1.	-	-	-	10

* Indicate units if different from µg/L.

Table 35 for Outfall No.: **004**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	
2-Chlorophenol	<0.53	-	-	-	10
2,4-Dichlorophenol	<0.73	-	-	-	10
2,4-Dimethylphenol	<0.56	-	-	-	10
4,6-Dinitro-o-cresol	<0.7	-	-	-	50
2,4-Dinitrophenol	<1.5	-	-	-	50
2-Nitrophenol	<0.93	-	-	-	20
4-Nitrophenol	<1.2	-	-	-	50
p-Chloro-m-cresol	<0.56	-	-	-	10
Pentachlorophenol	<0.53	-	-	-	5
Phenol	<0.47	-	-	-	10
2,4,6-Trichlorophenol	<0.84	-	-	-	10

* Indicate units if different from µg/L.

Table 36 for Outfall No.: **004**Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	05-Aug-25	-	-	-	
Acenaphthene	<0.3	-	-	-	10
Acenaphthylene	<0.5	-	-	-	10
Anthracene	<0.37	-	-	-	10
Benzidine	<0.7	-	-	-	50
Benzo(a)anthracene	<0.4	-	-	-	5
Benzo(a)pyrene	<0.9	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.6	-	-	-	10
Benzo(ghi)perylene	<0.67	-	-	-	20
Benzo(k)fluoranthene	<0.6	-	-	-	5
Bis(2-chloroethoxy)methane	<0.37	-	-	-	10
Bis(2-chloroethyl)ether	<0.76	-	-	-	10
Bis(2-chloroisopropyl)ether	<0.9	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.3	-	-	-	10
4-Bromophenyl phenyl ether	<0.43	-	-	-	10
Butylbenzyl phthalate	<0.73	-	-	-	10
2-Chloronaphthalene	<0.3	-	-	-	10
4-Chlorophenyl phenyl ether	<0.7	-	-	-	10
Chrysene	<0.6	-	-	-	5
Dibenzo(a,h)anthracene	<0.73	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.43	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.56	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.27	-	-	-	10
3,3'-Dichlorobenzidine	<0.93	-	-	-	5
Diethyl phthalate	<0.67	-	-	-	10
Dimethyl phthalate	<0.76	-	-	-	10
Di-n-butyl phthalate	<1.3	-	-	-	10
2,4-Dinitrotoluene	<1.	-	-	-	10
2,6-Dinitrotoluene	<1.3	-	-	-	10
Di-n-octyl phthalate	<2.9	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.23	-	-	-	20
Fluoranthene	<0.47	-	-	-	10
Fluorene	<0.5	-	-	-	10
Hexachlorobenzene	<0.73	-	-	-	5
Hexachlorobutadiene	<0.43	-	-	-	10
Hexachlorocyclopentadiene	<0.37	-	-	-	10
Hexachloroethane	<0.5	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.23	-	-	-	5
Isophorone	<0.3	-	-	-	10
Naphthalene	<0.33	-	-	-	10
Nitrobenzene	<0.96	-	-	-	10
N-Nitrosodimethylamine	<0.84	-	-	-	50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
N-Nitrosodi-n-propylamine	<0.76	-	-	-	20
N-Nitrosodiphenylamine	<0.5	-	-	-	20
Phenanthrene	<0.47	-	-	-	10
Pyrene	<0.6	-	-	-	10
1,2,4-Trichlorobenzene	<0.56	-	-	-	10

* Indicate units if different from µg/L.

Table 37 for Outfall No.: **004**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
	05-Aug-25	-	-	-	
Aldrin	<0.04	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.03	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.04	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.04	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.06	-	-	-	0.05
Chlordane	<1.	-	-	-	0.2
4,4'-DDT	<0.04	-	-	-	0.02
4,4'-DDE	<0.09	-	-	-	0.1
4,4'-DDD	<0.02	-	-	-	0.1
Dieldrin	<0.05	-	-	-	0.02
Endosulfan I (alpha)	<0.07	-	-	-	0.01
Endosulfan II (beta)	<0.04	-	-	-	0.02
Endosulfan sulfate	<0.05	-	-	-	0.1
Endrin	<0.04	-	-	-	0.02
Endrin aldehyde	<0.03	-	-	-	0.1
Heptachlor	<0.04	-	-	-	0.01
Heptachlor epoxide	<0.04	-	-	-	0.01
PCB 1242	<0.0017	-	-	-	0.2
PCB 1254	<0.0047	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.0049	-	-	-	0.2
PCB 1248	<0.01	-	-	-	0.2
PCB 1260	<0.03	-	-	-	0.2
PCB 1016	<0.03	-	-	-	0.2
Toxaphene	<1.	-	-	-	0.3

* Indicate units if different from µg/L.

Attachment: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

- ☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnell) CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- ☐ hexachlorophene (HCP) CASRN 70-30-4
- ☒ None of the above

Description: N/A

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

- ☐ Yes ☒ No

Description: N/A

If **yes** to either Items a or b, complete Table 12 as instructed.

Table 38 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☒ Yes ☐ No

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 39 for Outfall No.: **004**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
		05-Aug-25	13-Aug-25	19-Aug-25	26-Aug-25	
Vanadium, total	7440-62-2	5.08	7.31	5.63	4.5	200.8

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 is **required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

- a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 08/27/2025
- b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.
- c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm.
Attachment: See Worksheet 2, Outfall 001.

Item 2. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** N/A

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications.

Table 40 for Outfall No.: 005Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	27-Aug-25	-	-	-
BOD (5-day)	2.5	-	-	-
CBOD (5-day)	<2.	-	-	-
Chemical oxygen demand	17.	-	-	-
Total organic carbon	8.9	-	-	-
Dissolved oxygen	-	-	-	-
Ammonia nitrogen	1.6	-	-	-
Total suspended solids	17.	-	-	-
Nitrate nitrogen	<0.5	-	-	-
Total organic nitrogen	0.24	-	-	-
Total phosphorus	0.07	-	-	-
Oil and grease	<5.	-	-	-
Total residual chlorine	-	-	-	-
Total dissolved solids	264.	-	-	-
Sulfate	<5.	-	-	-
Chloride	21.8	-	-	-
Fluoride	<0.5	-	-	-
Total alkalinity (mg/L as CaCO ₃)	190.	-	-	-
Temperature (°F)	-	-	-	-
pH (standard units)	-	-	-	-

Table 41 for Outfall No.: 005Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
	27-Aug-25	-	-	-	
Aluminum, total	24.	-	-	-	2.5
Antimony, total	<1.	-	-	-	5
Arsenic, total	5.81	-	-	-	0.5
Barium, total	304.	-	-	-	3
Beryllium, total	<0.4	-	-	-	0.5
Cadmium, total	<0.2	-	-	-	1
Chromium, total	0.504	-	-	-	3
Chromium, hexavalent	8.9	-	-	-	3
Chromium, trivalent	-	-	-	-	N/A
Copper, total	<0.4	-	-	-	2
Cyanide, available	<0.47	-	-	-	2/10
Lead, total	<0.4	-	-	-	0.5
Mercury, total	<0.000042	-	-	-	0.005/0.0005
Nickel, total	<0.2	-	-	-	2
Selenium, total	<1.6	-	-	-	5
Silver, total	<0.2	-	-	-	0.5
Thallium, total	<0.2	-	-	-	0.5
Zinc, total	6.26	-	-	-	5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 is required for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 is required for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 42 for Outfall No.: 005Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
	27-Aug-25	-	-	-	
Acrylonitrile	<14.	-	-	-	50
Anthracene	<0.35	-	-	-	10
Benzene	<1.	-	-	-	10
Benzidine	<0.66	-	-	-	50
Benzo(a)anthracene	<0.38	-	-	-	5
Benzo(a)pyrene	<0.85	-	-	-	5
Bis(2-chloroethyl)ether	<0.72	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.2	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<1.	-	-	-	10
Bromoform	<2.	-	-	-	10
Carbon tetrachloride	<1.	-	-	-	2
Chlorobenzene	<1.	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<2.	-	-	-	10
Chloroform	<1.	-	-	-	10
Chrysene	<0.57	-	-	-	5
m-Cresol [3-Methylphenol] †	<1.3	-	-	-	10
o-Cresol [2-Methylphenol]	<1.	-	-	-	10
p-Cresol [4-Methylphenol] †	<1.3	-	-	-	10
1,2-Dibromoethane	<1.	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.53	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.41	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.25	-	-	-	10
3,3'-Dichlorobenzidine	<0.88	-	-	-	5
1,2-Dichloroethane	<1.	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.	-	-	-	10
Dichloromethane [Methylene chloride]	<1.	-	-	-	20
1,2-Dichloropropane	<0.9	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.	-	-	-	10
2,4-Dimethylphenol	<0.53	-	-	-	10
Di-n-Butyl phthalate	<1.2	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Epichlorohydrin (1-Chloro-2,3-epoxypropane) ††	ND	-	-	-	---
Ethylbenzene	<1.	-	-	-	10
Ethylene Glycol	<25000.	-	-	-	---
Fluoride	<500.	-	-	-	500
Hexachlorobenzene	<0.69	-	-	-	5
Hexachlorobutadiene	<0.41	-	-	-	10
Hexachlorocyclopentadiene	<0.35	-	-	-	10
Hexachloroethane	<0.47	-	-	-	20
4,4'-Isopropylidenediphenol (bisphenol A)	<5.	-	-	-	1
Methyl ethyl ketone	<2.	-	-	-	50
Methyl tert-butyl ether (MTBE)	<1.	-	-	-	---
Nitrobenzene	<0.91	-	-	-	10
N-Nitrosodiethylamine	<5.	-	-	-	20
N-Nitroso-di-n-butylamine	<5.	-	-	-	20
Nonylphenol	<5.	-	-	-	333
Pentachlorobenzene	<3.	-	-	-	20
Pentachlorophenol	<0.5	-	-	-	5
Phenanthrene	<0.44	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	0.317	-	-	-	0.2
Pyridine	<0.35	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<5.	-	-	-	20
1,1,2,2-Tetrachloroethane	<3.	-	-	-	10
Tetrachloroethene [Tetrachloroethylene]	<1.	-	-	-	10
Toluene	<0.7	-	-	-	10
1,1,1-Trichloroethane	<1.	-	-	-	10
1,1,2-Trichloroethane	<1.	-	-	-	10
Trichloroethene [Trichloroethylene]	<0.7	-	-	-	10
2,4,5-Trichlorophenol	<0.85	-	-	-	50
TTHM (Total trihalomethanes)	<1.	-	-	-	10
Vinyl chloride	<1.	-	-	-	10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

† *m*-cresol and *p*-cresol reported as combined by 625.1, laboratory has accreditation by 8270.

†† *Epichlorohydrin* analyzed by 624.1, laboratory has accreditation by 8260.

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

d. Tributyltin

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

- ☐ Manufacturers and formulators of tributyltin or related compounds.
- ☐ Painting of ships, boats and marine structures.
- ☐ Ship and boat building and repairing.
- ☐ Ship and boat cleaning, salvage, wrecking and scaling.
- ☐ Operation and maintenance of marine cargo handling facilities and marinas.
- ☐ Facilities engaged in wood preserving.
- ☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

e. Enterococci (discharge to saltwater)

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

f. E. coli (discharge to freshwater)

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 43 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)	N/A	N/A	N/A	N/A	0.010
Enterococci (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A
<i>E. coli</i> (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 44 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (<i>alpha</i>)					0.01
Endosulfan II (<i>beta</i>)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (<i>alpha</i>)					0.05
Hexachlorocyclohexane (<i>beta</i>)					0.05
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 is required for all external outfalls.

Table 45 for Outfall No.: 005

Samples are (check one): ☐ Composite ☒ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
			27-Aug-25	-	-	-	
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	250.	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	<1.	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO ₃)	☐	☒	-	-	-	-	—
Surfactants	☒	☐	0.138	-	-	-	—
Boron, total	☒	☐	0.0911	-	-	-	20
Cobalt, total	☐	☒	<0.0002	-	-	-	0.3
Iron, total	☒	☐	3.87	-	-	-	7
Magnesium, total	☒	☐	9.26	-	-	-	20
Manganese, total	☒	☐	1.05	-	-	-	0.5
Molybdenum, total	☒	☐	0.00377	-	-	-	1
Tin, total	☐	☒	<0.0002	-	-	-	5
Titanium, total	☒	☐	0.00114	-	-	-	30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☒ N/A

Table 46 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☐ Steam Electric Power Plants	423	☐ Yes	☐ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 47 for Outfall No.: **005**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	27-Aug-25	-	-	-	
Acrolein	<12.	-	-	-	50
Acrylonitrile	<14.	-	-	-	50
Benzene	<1.	-	-	-	10
Bromoform	<2.	-	-	-	10
Carbon tetrachloride	<1.	-	-	-	2
Chlorobenzene	<1.	-	-	-	10
Chlorodibromomethane	<2.	-	-	-	10
Chloroethane	<1.	-	-	-	50
2-Chloroethylvinyl ether	<15.	-	-	-	10
Chloroform	<1.	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
Dichlorobromomethane [Bromodichloromethane]	<1.	-	-	-	10
1,1-Dichloroethane	<0.9	-	-	-	10
1,2-Dichloroethane	<1.	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.	-	-	-	10
1,2-Dichloropropane	<0.9	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.	-	-	-	10
Ethylbenzene	<1.	-	-	-	10
Methyl bromide [Bromomethane]	<1.	-	-	-	50
Methyl chloride [Chloromethane]	<0.8	-	-	-	50
Methylene chloride [Dichloromethane]	<1.	-	-	-	20
1,1,2,2-Tetrachloroethane	<3.	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1.	-	-	-	10
Toluene	<0.7	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.	-	-	-	10
1,1,1-Trichloroethane	<1.	-	-	-	10
1,1,2-Trichloroethane	<1.	-	-	-	10
Trichloroethylene [Trichloroethene]	<0.7	-	-	-	10
Vinyl chloride	<1.	-	-	-	10

* Indicate units if different from µg/L.

Table 48 for Outfall No.: **005**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
	27-Aug-25	-	-	-	
2-Chlorophenol	<0.5	-	-	-	10
2,4-Dichlorophenol	<0.69	-	-	-	10
2,4-Dimethylphenol	<0.53	-	-	-	10
4,6-Dinitro-o-cresol	<0.66	-	-	-	50
2,4-Dinitrophenol	<1.4	-	-	-	50
2-Nitrophenol	<0.88	-	-	-	20
4-Nitrophenol	<1.1	-	-	-	50
p-Chloro-m-cresol	<0.53	-	-	-	10
Pentachlorophenol	<0.5	-	-	-	5
Phenol	<0.44	-	-	-	10
2,4,6-Trichlorophenol	<0.79	-	-	-	10

* Indicate units if different from µg/L.

Table 49 for Outfall No.: **005**Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
	27-Aug-25	-	-	-	
Acenaphthene	<0.28	-	-	-	10
Acenaphthylene	<0.47	-	-	-	10
Anthracene	<0.35	-	-	-	10
Benzidine	<0.66	-	-	-	50
Benzo(a)anthracene	<0.38	-	-	-	5
Benzo(a)pyrene	<0.85	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.57	-	-	-	10
Benzo(ghi)perylene	<0.63	-	-	-	20
Benzo(k)fluoranthene	<0.57	-	-	-	5
Bis(2-chloroethoxy)methane	<0.35	-	-	-	10
Bis(2-chloroethyl)ether	<0.72	-	-	-	10
Bis(2-chloroisopropyl)ether	<0.85	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.2	-	-	-	10
4-Bromophenyl phenyl ether	<0.41	-	-	-	10
Butylbenzyl phthalate	<0.69	-	-	-	10
2-Chloronaphthalene	<0.28	-	-	-	10
4-Chlorophenyl phenyl ether	<0.66	-	-	-	10
Chrysene	<0.57	-	-	-	5
Dibenzo(a,h)anthracene	<0.69	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.41	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.53	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.25	-	-	-	10
3,3'-Dichlorobenzidine	<0.88	-	-	-	5
Diethyl phthalate	<0.63	-	-	-	10
Dimethyl phthalate	<0.72	-	-	-	10
Di-n-butyl phthalate	<1.2	-	-	-	10
2,4-Dinitrotoluene	<0.97	-	-	-	10
2,6-Dinitrotoluene	<1.2	-	-	-	10
Di-n-octyl phthalate	<2.8	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.22	-	-	-	20
Fluoranthene	<0.44	-	-	-	10
Fluorene	<0.47	-	-	-	10
Hexachlorobenzene	<0.69	-	-	-	5
Hexachlorobutadiene	<0.41	-	-	-	10
Hexachlorocyclopentadiene	<0.35	-	-	-	10
Hexachloroethane	<0.47	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.22	-	-	-	5
Isophorone	<0.28	-	-	-	10
Naphthalene	<0.31	-	-	-	10
Nitrobenzene	<0.91	-	-	-	10
N-Nitrosodimethylamine	<0.79	-	-	-	50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
N-Nitrosodi-n-propylamine	<0.72	-	-	-	20
N-Nitrosodiphenylamine	<0.47	-	-	-	20
Phenanthrene	<0.44	-	-	-	10
Pyrene	<0.57	-	-	-	10
1,2,4-Trichlorobenzene	<0.53	-	-	-	10

* Indicate units if different from µg/L.

Table 50 for Outfall No.: **005**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
	27-Aug-25	-	-	-	
Aldrin	<0.004	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.003	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.004	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.004	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.006	-	-	-	0.05
Chlordane	<0.1	-	-	-	0.2
4,4'-DDT	<0.004	-	-	-	0.02
4,4'-DDE	<0.009	-	-	-	0.1
4,4'-DDD	<0.002	-	-	-	0.1
Dieldrin	<0.005	-	-	-	0.02
Endosulfan I (alpha)	<0.007	-	-	-	0.01
Endosulfan II (beta)	<0.004	-	-	-	0.02
Endosulfan sulfate	<0.005	-	-	-	0.1
Endrin	<0.004	-	-	-	0.02
Endrin aldehyde	<0.003	-	-	-	0.1
Heptachlor	<0.004	-	-	-	0.01
Heptachlor epoxide	<0.004	-	-	-	0.01
PCB 1242	<0.0017	-	-	-	0.2
PCB 1254	<0.0047	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.0049	-	-	-	0.2
PCB 1248	<0.01	-	-	-	0.2
PCB 1260	0.317	-	-	-	0.2
PCB 1016	<0.03	-	-	-	0.2
Toxaphene	<0.1	-	-	-	0.3

* Indicate units if different from µg/L.

Attachment: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

- ☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnell) CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- ☐ hexachlorophene (HCP) CASRN 70-30-4
- ☒ None of the above

Description: N/A

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

- ☐ Yes ☒ No

Description: N/A

If **yes** to either Items a or b, complete Table 12 as instructed.

Table 51 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☒ Yes ☐ No

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 52 for Outfall No.: **005**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
		27-Aug-25	-	-	-	
Vanadium, total	7440-62-2	<0.6	-	-	-	200.8

INDUSTRIAL WASTEWATER PERMIT APPLICATION

WORKSHEET 4.0: RECEIVING WATERS

This worksheet is **required** for all TPDES permit applications.

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

- a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: N/A
2. The distance and direction from the outfall to the drinking water supply intake: N/A

- b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 19. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

- a. Width of the receiving water at the outfall: 640 feet (Outfall 005)

- b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☒ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: N/A

- c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☒ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: N/A

Item 20. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☒ Yes (Outfall 005) ☒ No (Outfalls 001, 002, 003A/B/C, 004, 006)

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 21. Description of Immediate Receiving Waters (Instructions, Page 80)

- a. Name of the immediate receiving waters: See below.

Outfalls 001, 004 – Unnamed drainage ditches

Outfall 002 – Wallisville Gully

Outfall 003 – Unnamed drainage ditch along Sheldon Road

Outfalls 003A, 003B, 003C – Unnamed drainage ditch along Wallisville Road

Outfall 006 – HCFCD ditch G103-07-05

- b. Check the appropriate description of the immediate receiving waters:

☐ Lake or Pond

- Surface area (acres): N/A
- Average depth of the entire water body (feet): N/A
- Average depth of water body within a 500-foot radius of the discharge point (feet): N/A

☒ Man-Made Channel or Ditch

☐ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

- c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☒ Intermittent (dry for at least one week during most years)

(Outfalls 001, 002, 003, 003A, 003B, 003C, 004, 006)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☐ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☒ other, specify: 2021 TPDES permit fact sheet

- d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point:

Outfall 001, 004 - Wallisville Gully, thence to San Jacinto River Tidal

Outfall 002 - San Jacinto River Tidal

Outfalls 003, 003A, 003B, 003C - HCFCF ditch G103-03-02, thence to San Jacinto River Tidal

Outfall 006 - HCFCF ditch G103-07-05, thence to San Jacinto River Tidal

- e. The receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.).

☒ Yes ☐ No

If **yes**, describe how: The relatively narrow drainage ditches and Wallisville Gully flow into the much wider San Jacinto River Tidal.

- f. General observations of the water body during normal dry weather conditions:

Date and time of observation:

Outfall	Date / Time	Observation
001	9/18/25 1:00 PM	Discharge with no floating solids
002	9/18/25 12:50 PM	Discharge with no floating solids
003	9/18/25 1:10 PM	No discharge
003A	9/18/25 1:15 PM	No discharge
003B	9/18/25 1:20 PM	No discharge
003C	9/18/25 1:25 PM	No discharge
004	9/18/25 1:00 PM	Discharge with no floating solids
005	9/18/25 1:45 PM	No discharge

- g. The water body was influenced by stormwater runoff during observations.

☐ Yes ☒ No

If **yes**, describe how: N/A

Item 22. General Characteristics of Water Body (Instructions, Page 81)

- a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☐ oil field activities	☐ urban runoff
☐ agricultural runoff	☐ septic tanks
☐ upstream discharges	☒ other, specify: <u>Stormwater runoff</u>

- b. Uses of water body observed or evidence of such uses (check all that apply):

☐ livestock watering	☐ domestic water supply
☐ non-contact recreation	☐ contact recreation

☐ fishing

☐ industrial water supply

☐ irrigation withdrawal

☐ navigation

☐ picnic/park activities

☒ other, specify: Stormwater drainage

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☐ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☒ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

INDUSTRIAL WASTEWATER PERMIT APPLICATION

WORKSHEET 5.0: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

The following information **is required** for all TPDES permit applications that meet the conditions as outlined in Technical Report 1.0, Item 7.

Item 1. Sewage Sludge Solids Management Plan (Instructions, Page 84)

a. Is this a new permit application or an amendment permit application?

☐ Yes ☒ No

b. Does or will the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If **yes** to either Item 1.a **or** 1.b, attach a solids management plan. **Attachment:** N/A

Item 24. Sewage Sludge Management and Disposal (Instructions, Page 84)

a. Check the box next to the sludge disposal method(s) authorized under the facility's existing permit (check all that apply).

- ☐ Permitted landfill
- ☐ Marketing and distribution by the permittee, attach Form TCEQ-00551
- ☐ Registered land application site, attach Form TCEQ-00565
- ☐ Processed by the permittee, attach Form TCEQ-00744
- ☐ Surface disposal site (sludge monofill), attach Form TCEQ-00744
- ☐ Transported to another WWTP
- ☐ Beneficial land application, attach Form TCEQ-10451
- ☐ Incineration, attach Form TCEQ-00744

Based on the selection(s) made above, complete and attach the required TCEQ forms as directed. Failure to submit the required TCEQ form will result in delays in processing the application

Attachment: The domestic sludge is transported off-site for disposal in a landfill. The landfill (shown below) is not part of the facility existing TPDES permit WQ0000391000.

b. Provide the following information for each disposal site:

Disposal site name: Blue Ridge Landfill

TCEQ Permit/Registration Number: SWR 89429

County where disposal site is located: Fort Bend

c. Method of sewage sludge transportation:

☒ truck ☐ train ☐ pipe ☐ other: N/A

TCEQ Hauler Registration Number: Space City Services (SWR 97291)

d. Sludge is transported as a:

☐ liquid ☐ semi-liquid ☒ semi-solid ☐ solid

e. Purpose of land application: ☐ reclamation ☐ soil conditioning ☒ N/A

f. If sewage sludge is transported to another WWTP for treatment, attach a written statement or copy of contractual agreements confirming that the WWTP identified above will accept and be responsible for the sludge from this facility for the life of the permit (at least 5 years).

Attachment: N/A

Item 25. Authorization for Sewage Sludge Disposal (Instructions, Page 85)

If this is a new or major amendment application which requests authorization of a new sewage sludge disposal method, check the new sewage disposal method(s) requested for authorization (check all that apply):

- ☐ Marketing and distribution by the permittee, attach Form TCEQ-00551
- ☐ Processed by the permittee, attach Form TCEQ-00744
- ☐ Surface disposal site (sludge monofill), attach Form TCEQ-00744
- ☐ Beneficial land application, attach Form TCEQ-10451
- ☐ Incineration, attach Form TCEQ-00744

Based on the selection(s) made above, complete and attach any required TCEQ forms, as directed. Failure to submit the required TCEQ form will result in delays in processing the application.

Attachment: N/A

NOTE: New authorization for beneficial land application, incineration, processing, or disposal in the TPDES permit or TLAP **requires a major amendment to the permit**. New authorization for composting may require a major amendment to the permit. See the instructions to determine if a major amendment is required or if authorization for composting can be added through the renewal process.

Table 3. Wastewater Flows by Outfall

Outfall		Wastewater Sources	Monthly Average (MGD)	Flow % by Wastewater Source	Applicable Effluent Guideline (EGL)[1] and Percent of Production
001		Process wastewater and storm water (total)	4.04	45.4%	40 CFR 414, Subpart D (0.2%) 40 CFR 414, Subpart F (69.5%) 40 CFR 414, Subpart G (30.3%)
		Process Wastewater	3.04		
		Storm water [2]	1.00		
		Utility wastewater (total)	4.62	51.9%	N/A
		Cooling tower and boiler blowdown (including Cogen)	2.50		
		Demineralizer / regeneration water	1.10		
		Other miscellaneous flows [3]	1.02		
	101/201	Domestic wastewater	0.24	2.7%	
		Outfall 001 Total	8.90	100%	
002		Storm water	Intermittent and variable		N/A
		Construction storm water			
		De minimis quantities from spill cleanups			
		Utility wastewater			
003, 003A, 003B, 003C		Storm water	Intermittent and variable		N/A
		Construction storm water			
		De minimis quantities from spill cleanups			
		Utility wastewater			
004		Storm water	Intermittent and variable		N/A
		Construction storm water			
		De minimis quantities from spill cleanups			
		Utility wastewater			
005		Storm water	Intermittent and variable		N/A
		Construction storm water			
		De minimis quantities from spill cleanups			
		Utility wastewater			
006		Storm water	Intermittent and variable		N/A
007		Storm water associated with construction activities from a concrete batch plant	Intermittent and variable		N/A
Notes [1] 40 CFR 414, Subpart D - Organic Chemicals, Plastics, and Synthetic Fibers, Thermoplastic Resins 40 CFR 414, Subpart F - Organic Chemicals, Plastics, and Synthetic Fibers, Commodity Organic Chemicals 40 CFR 414, Subpart G - Organic Chemicals, Plastics, and Synthetic Fibers, Bulk Organic Chemicals [2] Stormwater that is potentially contaminated. For purpose of EGL allocations, considered equivalent to process wastewater. [3] Other miscellaneous flows, see Table 2 Wastewater Sources by Outfall. N/A Not applicable					

ATTACHMENT T-1

EQUISTAR CHEMICALS, LP
CHANNELVIEW NORTH COMPLEX
FACILITY DESCRIPTION

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EQUISTAR CHEMICALS, LP CHANNELVIEW NORTH COMPLEX FACILITY DESCRIPTION

This document describes the Equistar Chemicals, LP Channelview North Complex in relation to its wastewater discharge TPDES permit WQ0000391000. This description includes outfall locations and wastewaters discharged, wastewater and stormwater management, and applicability of national effluent guidelines.

SITE OPERATIONS

Equistar CVON

The Equistar Chemicals, LP Channelview North Complex (CVON) is located at 8280 Sheldon Road in Channelview, Texas, approximately four miles north of Interstate Highway 10. The facility produces bulk and commodity organic chemicals and thermoplastic resins. Chemicals are produced by high temperature cracking of various petroleum-based feedstocks. Chemicals are compressed, fractionated, and then recovered in downstream units.

The facility will be constructing a new Flex 2 Unit in 2026, which will expand its propylene production capacity. Projected startup is late 2028.

Raw materials, intermediates, and products associated with the manufacturing units are listed in Table 1.

Third-Party Operations

A number of third-party facilities send wastewater to CVON's wastewater treatment system. These wastewaters are compatible with CVON-generated wastewaters that treated in the CVON wastewater treatment system. The volume and nature of these third-party wastewaters will not impact the ability for CVON to consistently achieve the effluent limitations specified in the permit.

EIF Channelview Cogeneration LLC (EIF)¹ owns and operates a cogeneration facility adjacent to and north of CVON. CVON provides the boiler feed and utility water to EIF. EIF's cogeneration unit generates 600- and 1,500-pound steam, which is the major source of steam for CVON. The electricity produced by EIF supplies all of CVON's power needs.

EIF is a combined-cycle cogeneration unit using natural gas combustion to generate electricity via turbines and steam in heat recovery steam generators. The wastewaters received by CVON from EIF's cogeneration facility are boiler blowdown, cooling tower blowdown, process area stormwater, and domestic wastewater. EIF's process area stormwater is routed through a corrugated plate interceptor (CPI) prior to being discharged to CVON's treatment system. The volume of the combined wastewaters received from the cogeneration facility is approximately 1.0 million gallons per day (MGD).

¹ EIF Channelview Cogeneration, LLC 8580 Sheldon Road, Channelview, Texas 77049

Lyondell Chemical Company owns and operates the Houston Technology Center (HTC)² adjacent to and north of CVON. The HTC functions as a Research and Development Center. CVON has the ability to receive wastewater from the HTC for treatment within the CVON wastewater treatment plant on an as-needed basis. The HTC wastewater is comprised of non-contact stormwater and utility wastewater, which includes condensate blowdown from air handling units, air exchangers, and ventilation equipment. The HTC's stormwater is discharged through an outfall authorized by the Multi-Sector General Permit (MSGP).

CVON receives domestic wastewater from the HTC and EIF and may periodically receive domestic wastewater and wastewater treatment sludges from the adjacent Lyondell Chemical Channelview South Plant.³ Domestic wastewater is sent to CVON's internal Outfall 101 septic chlorinator where it is chlorinated along with domestic wastewater from the majority of CVON.

CVON periodically receives hydrostatic test water from Equistar Pipeline Operations.⁴ The hydrostatic test water is generated very infrequently and potential contaminants in the test water are identical to those found in the wastewater that is typically generated at CVON.

CVON may periodically receive wastewater from other Equistar facilities located off-site that are compatible with the wastewaters currently treated at CVON.

WASTEWATER SYSTEM AND OUTFALLS

There are twelve outfalls authorized by CVON's TPDES Permit No. WQ0000391000. Outfall 001 is the process wastewater outfall. There are two internal outfalls (101, 201), which discharge treated domestic wastewater to the Outfall 001 wastewater treatment system. The remaining outfalls (002, 003, 003A, 003B, 003C, 004, 005, 006, 007) are primarily stormwater outfalls.

Sources of wastewater are listed by outfall in Table 2. Wastewater flows by outfall are listed in Table 3.

Figure 1 is a flow balance diagram for Outfall 001 that shows wastewater sources and treatment units. Figure 2 shows the overall flow routing in the treatment system. Table 4 is a list of the primary components of the wastewater treatment system.

Outfall 001

Outfall 001 discharges treated process wastewater, utility wastewater, treated domestic wastewater, and stormwater. A list of specific wastewaters that may be discharged through Outfall 001 is shown in Table 2. Outfall 001 discharges to an unnamed drainage ditch, thence to Wallisville Gully, thence to San Jacinto River Tidal.

² Houston Technology Center, 8280 Sheldon Road, Channelview, Texas 77530

³ Lyondell Chemical Company, P.O. Box 777, Channelview, Texas 77530

⁴ Equistar Pipeline Operations Mont Belvieu Terminal, 11815 Highway 146, Mont Belvieu, Texas 77580

Wastewater Treatment System

Preliminary treatment of certain wastewaters is provided in the manufacturing operation units and consists primarily of separation, neutralization, and/or steam stripping. These wastewaters are then routed to the main wastewater treatment system, which includes treatment units for equalization, stabilization, filtration, activated sludge biological treatment, clarification, and settling. Part of the biosolids generated in the activated sludge process are recycled to the biological aeration tanks (return activated sludge, RAS) and excess biosolids (waste activated sludge, WAS) are removed and routed to land treatment. Treated wastewater is discharged through Outfall 001.

Outfalls 101 and 201

Domestic (sanitary) wastewater is collected separately from industrial wastewaters. Domestic wastewater is chlorinated for bacterial disinfection and then routed via internal Outfalls 101 and 201 to the wastewater treatment system. Domestic wastewater from the CVON Northeast Campus is collected in the septic chlorinator known as Tank 1767 and effluent from the unit is designated as internal Outfall 201. Domestic wastewater from the remainder of the CVON, the HTC, and the EIF cogeneration facility is collected in the other septic chlorinator and effluent from this chlorinator is designated as internal Outfall 101. Domestic wastewater from the Lyondell Channelview South Complex (CVOS) may be received for treatment on an as-needed basis. Some domestic wastewater may be collected in on-site portable toilets during construction/maintenance work and transported off-site for treatment.

Houston Technology Center (HTC)

The HTC research and development (R&D) facility started up in 2013. All R&D activities are conducted inside the HTC building and any wastewaters or liquid wastes generated by the R&D operations inside the HTC building are transported off-site for disposal.

Process wastewater from the HTC was added to the list of authorized wastewaters discharged through Outfall 001 when the permit was renewed in 2016. The HTC has a pilot plant for VAM (vinyl acetate monomer) and POSM. VAM operations includes the pilot plant itself and a diked area for tanks storing acetic acid, product (VAM), oxygen, and stormwater. POSM operations includes the pilot plant itself and a diked area for tanks storing residual fuel oil (RFO), ethylbenzene (EB), sulfuric acid, and stormwater.

The only sewer connection from the HTC to the 001 treatment system is the HTC sanitary sewer that routes wastewater from the HTC building to the CVON septic chlorinator associated with internal Outfall 101. The TPDES permit authorizes sanitary wastewater, HTC process wastewater, and HTC stormwater through Outfall 101 via the septic chlorinator. The chlorinator includes a grinder pump for solids and disinfection with sodium hypochlorite. Effluent from the chlorinator is designated as internal Outfall 101 and monitoring is required for flow, bacteria (Enterococci), and residual chlorine.

The Outfall 101 effluent is routed to the 001 treatment system where it commingles with other wastewaters, including process wastewaters, for treatment before discharge through Outfall 001. Outfall 001 has permit limits that cover process wastewaters. Vinyl acetate is listed under Subpart F Commodity Organic Chemicals of 40 CFR 414, and this subpart also covers several existing process units at CVON

(benzene, ethylene, isopropanol, methanol, propylene, toluene). As such, the HTC VAM wastewater does not add any new effluent guidelines to the Outfall 001 discharge.

There can be 6,000-7,000 gallons per month of stormwater from the diked area. Process wastewaters from the VAM pilot plant operations would be any contaminated waters as a result of spills or leaks and would be intermittent. CVON does not expect that the HTC wastewaters sent to the 101 septic chlorinator would affect the disinfection process.

The purpose of Outfall 101 is to demonstrate through bacteria and chlorine monitoring that domestic wastewater is properly disinfected and any other required monitoring for process wastewater is at Outfall 001.

Landfarm

The CVON has a landfarm to cultivate the WAS biosolids from the biological wastewater treatment system. Dewatered sludge from raw water treatment may also be sent to the landfarm as-needed. The landfarm consists of four cells. Once a cell is at approximately 75% capacity with solids, the cell is taken out of service and dewatered. A vegetative crop is planted within the cell, then harvested when mature and sent to an off-site waste disposal site. Afterwards, a filtration grass is planted within the cell. Once the grass has matured, the cell can be put back in service. Stormwater and any water from the biosolids that accumulate in active landfarm cells is pumped to Ponds 1A and 1B in the wastewater treatment system. Stormwater that accumulates in inactive landfarm cells may be discharged through stormwater Outfalls 002 and 004, or sent through wastewater treatment.

Stormwater Outfalls

Outfall 002

Outfall 002 is primarily a stormwater outfall. Other wastewaters that may be discharged include utility wastewaters and de minimis wastewaters from spill cleanups. Specific utility wastewaters are listed in Table 2. Water from the fire water system is used to keep a continuous flow through Outfall 002 to prevent stagnant water conditions at the outfall. Outfall 002 discharges to Wallisville Gully, thence to San Jacinto River Tidal.

During routine operation, stormwater from the C4 sphere pad drains via gravity flow to the basin. Non-contaminated stormwater is drained to the adjacent stormwater ditch that ultimately discharges via Outfall 002. In the unlikely event of a release from the tanks, firewater would be applied to knock down vapors into the containment basin. Contaminated material would be pumped to a process unit for treatment.

A new detention pond to capture stormwater runoff from laydown areas associated with the future Flex 2 Unit is expected to startup in 2028. The detention pond will discharge after rain events to Outfall 002.

Outfalls 003, 003A, 003B, 003C

Outfalls 003, 003A, 003B, and 003C are four separate stormwater outfalls that are located in close proximity to each other in the southwest corner of the site. For the purpose of discharge monitoring reports (DMRs), the TPDES permit requires that the highest value for total organic carbon, oil and grease, and total zinc, and the highest and lowest pH from the combined outfall data be reported in the DMR under Outfall 003.

All four 003 outfalls discharge primarily stormwater, but they are also authorized to discharge utility wastewaters and de minimis wastewaters from spill cleanups. Specific utility wastewaters are listed in Table 2. Outfall 003 discharges to an unnamed drainage ditch along Sheldon Road on the west side of the facility. Outfalls 003A, 003B, and 003C discharge to an unnamed drainage ditch along Wallisville Road on the south side of the facility. The two ditches merge at the intersection of Sheldon and Wallisville Roads, then flow to Harris County Flood Control District (HCFCD) Ditch G103-03-02, thence to San Jacinto River Tidal.

Outfall 004

Outfall 004 is primarily a stormwater outfall. Other wastewaters that may be discharged include utility wastewaters and de minimis wastewaters from spill cleanups. Specific utility wastewaters are listed in Table 2. Outfall 004 discharges in close proximity to the Outfall 001 discharge and both discharges commingle in the same unnamed drainage ditch, which flows to Wallisville Gully, and thence to San Jacinto River Tidal.

Outfall 005

Outfall 005 is primarily a stormwater outfall. Other wastewaters that may be discharged include utility wastewaters and de minimis wastewaters from spill cleanups. Specific utility wastewaters are listed in Table 2. Outfall 005 discharges from the Barge Dock Pond into the barge dock waters, which are part of San Jacinto River Tidal.

Outfall 006

Outfall 006 discharges stormwater from the HTC via the HTC Pond. The discharge flows into HCFCD Ditch G103-07-05, thence to San Jacinto River Tidal.

The HTC is a research and development (R&D) facility and R&D activities are conducted inside the HTC building. Located outside the building are a covered drum storage area, a thermal oxidizer and associated propane tank, and parking areas. Because the HTC and the HTC pond outfall were started up prior to the addition of Outfall 006 to the TPDES permit, Outfall 006 was originally authorized by MSGP No. TXR05BR93. CVON has not activated this outfall for use under the individual permit WQ0000391000's Other Requirement No. 9, and intends to continue authorization under the MSGP for the foreseeable future. However, CVON wishes to retain Outfall 006 in permit WQ0000391000 for now.

Outfall 007

Outfall 007 was added to the TPDES permit in 2016 when construction stormwater was added to the stormwater outfalls. When construction stormwater is added to a TPDES permit, it is the TCEQ's policy to add an outfall to authorize the discharge of stormwater from any on-site concrete batch plant associated with construction projects. To-date, CVON has not needed to activate Outfall 007 for any construction projects. Because the location of this type of outfall depends on where a given construction project is located, the outfall routing is not specified in the permit.

WATER SUPPLY

Water used for industrial purposes at CVON is supplied from Lake Houston. The City of Houston owns 100% of Lake Houston and the Coastal Water Authority (CWA) manages Lake Houston.⁵ The Luce Bayou Interbasin Transfer Project (LBITP) transfers surface water to Lake Houston from the Trinity River located in Liberty County, Texas. The intake structure at Lake Houston is controlled and operated by CWA. The City is also a public water system (PWS) with ID TX1010013.

Water from CWA is pumped into a canal system that leads to CVON. The water from the canal is pumped to a surface water treatment unit within CVON where the water is filtered and clarified before use within the manufacturing process. Periodically, the water from Lake Houston may have elevated copper levels, which is monitored at the entry and exit to the CVON surface water treatment unit.

EFFLUENT GUIDELINES

National effluent guidelines that apply to the process wastewater from CVON are those for the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) industry at 40 CFR 414, Subpart D Thermoplastic Resins, Subpart F Commodity Organic Chemicals, Subpart G Bulk Organic Chemicals, and Subpart I Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment. Process production percentages and wastewater flow rates are given in Table 3.

Wastewaters received from the EIF cogeneration unit, the HTC R&D facility, Equistar Pipeline, and Lyondell Chemical are not subject to 40 CFR 437 Centralized Waste Treatment effluent guidelines because they are either routed to the CVON wastewater system via conduit (40 CFR 437.1(b)(3)) and/or they are similar to other wastewaters that are generated by CVON and are compatible with CVON's wastewater treatment system (40 CFR 437.1(b)(2)).

Process wastewater from EIF's cogeneration facility is not subject to effluent guidelines at 40 CFR 423, Steam Electric Power Generating, because it is a merchant plant (industrial non-utility).⁶

⁵ <https://www.houstonpublicworks.org/drinking-water-operations>

⁶ United States Environmental Protection Agency, Steam Electric Power Generating Point Source Category: Final Detailed Study Report, EPA 821-R-09-008, pg. 7-10.

Table 1. Raw Materials, Intermediates, and Final Products

Raw Materials	Intermediates	Final Products
1,3-Butadiene [106-99-0]	Acetonitrile [75-05-8]	1,3-Butadiene [106-99-0]
Acetone [67-64-1]	Butene [106-98-9]	Alkylate [64741-64-6]
Butane [106-97-8]	Ethylbenzene [100-41-4]	Benzene [71-43-2]
Butylcellusolve [111-76-2]	Hydrogen [1333-74-0]	Butylene [25167-67-3]
Butylene [25167-67-3]	Isobutane [75-28-5]	Dicyclopentadiene [77-73-6]
Dicumylperoxide [80-43-3]	Methanol [67-56-1]	Ethylene [74-85-1]
Ditertiarybutylperoxide [110-0-54]	Sodium Bisulfite (NAHSO ₃) [7631-90-5]	Gasoline Blending Stock
Dripolene	Sodium Hydroxide [1310-73-2]	Heavy Pyrolysis Gasoline [64742-48-9]
Ethane [74-84-0]	Sodium Hypochlorite [7681-52-9]	Hydrogen [1333-74-0]
Gas Oil [64742-80-9]	Total Xylene [1330-20-7]	Isoprene [78-79-5]
Hydrogen Peroxide [7722-84-1]	Xylene-m [108-38-3]	Isopropyl Alcohol [67-63-0]
Iso-octyl Alcohol [68526-83-0]	Xylene-o [95-47-6]	Light Pyrolysis Gasoline [68527-26-4]
Isobutane [75.28-5]	Xylene-p [95-47-6]	Methanol [67-56-1]
Isopropyl Alcohol [67-63-0]		Methyl Tertiary Butyl Ether [1634-04-4]
Lithium Acetate [546-89-4]		Piperylene [68477-35-0]
Methanol [67-56-1]		Poly Butadiene Resins [69102-90-5]
Naphtha [8030-30-6]		Propane [74-98-6]
Natural Gas [8006-14-2]		Propylene [115-07-1]
Propane [74-98-6]		Pyrolysis Fuel Oil [64742-90-1]
		Pyrolysis Gas Oil [68475-80-1]
		Toluene [108-88-3]

Table 2. Wastewater Sources by Outfall

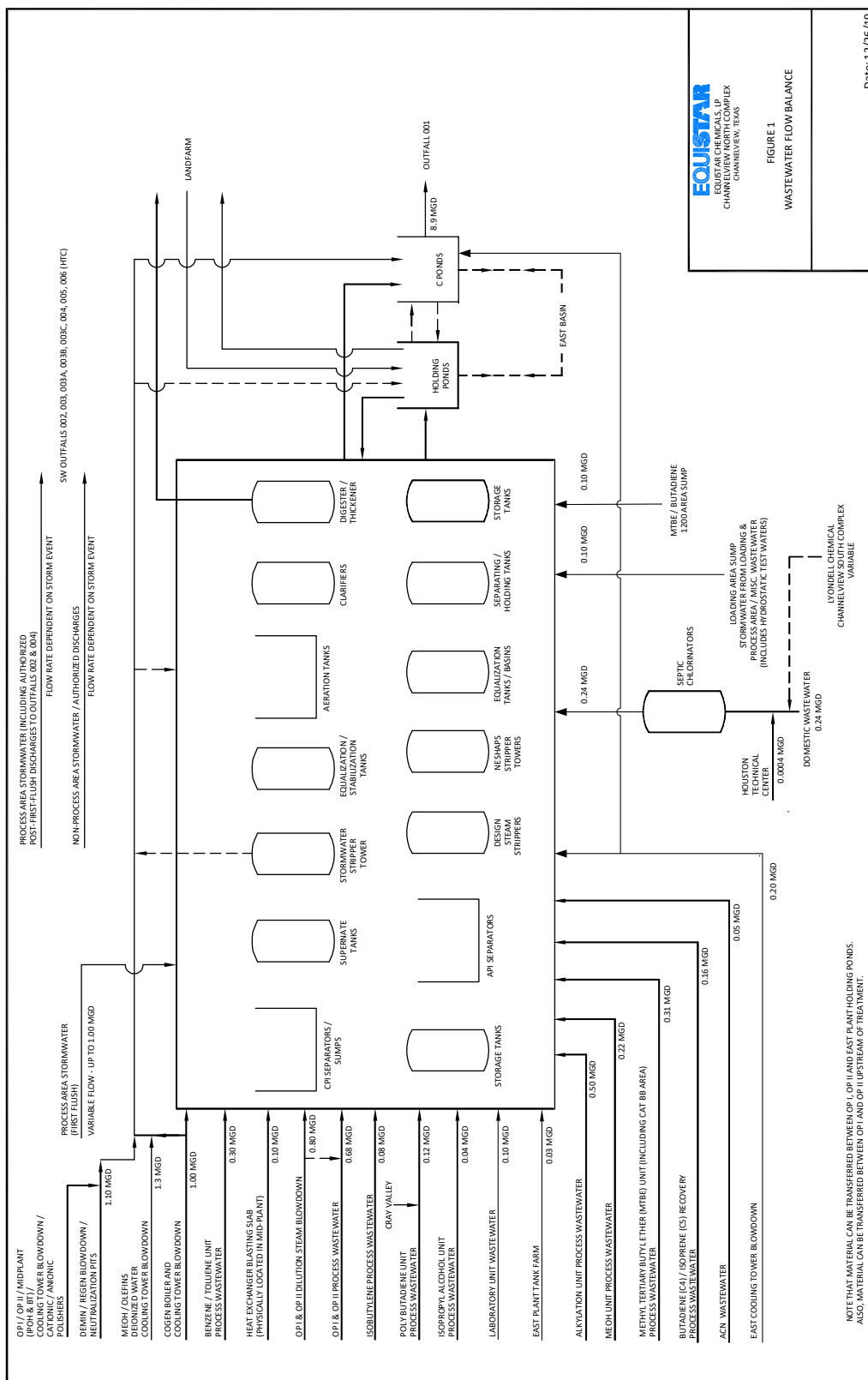
Source	Outfall											
	001	002	003	003A	003B	003C	004	005	006	007	101	201
Process wastewater	x											
Houston Technology Center (HTC) wastewater	x										x	
Auto shop wastewater	x											
Laboratory wastewater	x											
Cooling tower and boiler blowdown	x											
Cooling tower and boiler maintenance wastewaters	x											
Loading area and process area washdown	x											
Tank farm wastewater	x											
Heat exchanger blasting slab wastewater	x											
Steam condensate and blowdown	x											
Demineralization regeneration blowdown	x											
Water treatment wastewaters	x											
Methanol neutralization sump wastewater	x											
Hydrostatic test water [7]	x											
Maintenance wastewater	x											
Water from landfarm	x											
Groundwater [4]	x											
Domestic wastewater [6]	x										x	x
Stormwater	x[1]	x[2]	x	x	x	x	x[2]	x	x			
Utility wastewater [3]	x	x	x	x	x	x	x	x				
Construction stormwater	x	x	x	x	x	x	x	x		x[5]		
De minimis spill cleanup water		x	x	x	x	x	x	x				
Notes x Listed in TPDES permit issued 6-2-2025. [1] Stormwater from process areas and adjacent co-generation facility, first-flush from process areas [2] Stormwater from non-process areas, secondary containment structures, and post-first flush process stormwater Utility wastewater includes, but is not limited to: potable water, vehicle rinse water, firewater (which has not come into direct contact with raw material, intermediate product, finished product, by-product, or waste product and is not the result of a fire), hydrotest water, clarified water, demineralized water, steam condensate and blowdown, non-contact once-through cooling water, de minimis amounts of cooling tower water, raw and well water, groundwater seepage, condensate, and analyzer instrumentation drain wastewater. [3] [4] Groundwater from monitoring and recovery wells (on-site and off-site) [5] Stormwater associated with construction activities from a concrete batch plant Domestic wastewater from Equistar CVON, Lyondell CVOS, HTC, and EIF Cogen. All domestic wastewater routed from internal Outfalls [6] 101/201 to Outfall 001 treatment system. [7] Hydrostatic test water includes water from Equistar Pipeline Operations.												

Table 3. Wastewater Flows by Outfall

Outfall		Wastewater Sources	Monthly Average (MGD)	Flow % by Wastewater Source	Applicable Effluent Guideline (EGL)[1] and Percent of Production	
001		Process wastewater and storm water (total)	4.04	45.4%	40 CFR 414, Subpart D (0.2%) 40 CFR 414, Subpart F (69.5%) 40 CFR 414, Subpart G (30.3%)	
		Process Wastewater	3.04			
		Storm water [2]	1.00			
			Utility wastewater (total)	4.62	51.9%	N/A
			Cooling tower and boiler blowdown (including Cogen)	2.50		
			Demineralizer / regeneration water	1.10		
			Other miscellaneous flows [3]	1.02		
	101/201	Domestic wastewater	0.24	2.7%		
		Outfall 001 Total	8.90	100%		
002		Storm water	Intermittent and variable		N/A	
		Construction storm water				
		De minimis quantities from spill cleanups				
		Utility wastewater				
003, 003A, 003B, 003C		Storm water	Intermittent and variable		N/A	
		Construction storm water				
		De minimis quantities from spill cleanups				
		Utility wastewater				
004		Storm water	Intermittent and variable		N/A	
		Construction storm water				
		De minimis quantities from spill cleanups				
		Utility wastewater				
005		Storm water	Intermittent and variable		N/A	
		Construction storm water				
		De minimis quantities from spill cleanups				
		Utility wastewater				
006		Storm water	Intermittent and variable		N/A	
007		Storm water associated with construction activities from a concrete batch plant	Intermittent and variable		N/A	
Notes						
[1]	40 CFR 414, Subpart D - Organic Chemicals, Plastics, and Synthetic Fibers, Thermoplastic Resins 40 CFR 414, Subpart F - Organic Chemicals, Plastics, and Synthetic Fibers, Commodity Organic Chemicals 40 CFR 414, Subpart G - Organic Chemicals, Plastics, and Synthetic Fibers, Bulk Organic Chemicals					
[2]	Stormwater that is potentially contaminated. For purpose of EGL allocations, considered equivalent to process wastewater.					
[3]	Other miscellaneous flows, see Table 2 Wastewater Sources by Outfall.					
N/A	Not applicable					

Table 4. Wastewater Treatment Units

Treatment Unit	Capacity	Associated Outfall
OPI CPI	12,000 gallons	001
OPII CPI	12,000 gallons	001
BT CPI	7,500 gallons	001
Poly BD API	30,000 gallons	001
West API	6,300 gallons	001
East API	24,000 gallons	001
Equalization Tank 1708	200,000 gallons	001
First-Flush Tank 1713	451,000 gallons	001
First-Flush Tank 1714	451,000 gallons	001
Equalization Tank 1715	1,000,000 gallons	001
Equalization Tank 1719	451,000 gallons	001
Equalization Tank 1720	451,000 gallons	001
Equalization Tank 1721	451,000 gallons	001
Equalization Tank 1722	149,000 gallons	001
Equalization Tank 1729	451,000 gallons	001
Equalization Tank 1730	451,000 gallons	001
Equalization Tank 1731	451,000 gallons	001
Equalization Tank 1732	149,000 gallons	001
Equalization Tank 2612	1,000,000 gallons	001
Equalization Tank 2615	66,000 gallons	001
OPI Neutralization Pit (Demin, Regin BD)	165,000 gallons	001
OPII Neutralization Pit (Demin, Regin BD)	165,000 gallons	001
MEK Neutralization Sumps 2 & 3	126,000 gallons	001
Equalization Tank 1750	424,000 gallons	001
Clarifier 1724	212,000 gallons	001
Clarifier 1734	212,000 gallons	001
Aerobic Digestion 1725	451,000 gallons	001
Aerobic Digestion 1735	451,000 gallons	001
Thickener 1726	248,000 gallons	001
Thickener 1736	248,000 gallons	001
Septic Chlorinator	6,500 gallons	001
Septic Chlorinator (Tank 1767)	7,200 gallons	001
East Basin	2,600,000 gallons	001
Holding Pond 1-A	1,300,000 gallons	001
Holding Pond 1-B	532,000 gallons	001
Holding Pond 2-A	1,300,000 gallons	001
Holding Pond 2-B	532,000 gallons	001
Final Holding Basin 1-C	63,000 gallons	001
Final Holding Basin 2-C	63,000 gallons	001
OP2 Storm Water Steam Stripper T-4453	1,500,000 gpd	001
OP1 NESHAP Steam Stripper T-3407	600,000 gpd	001
OP2 NESHAP Steam Stripper T-4407	600,000 gpd	001
Blasting Slab Sump	20,000 gallons	001
Landfarm	24 acres	001
Methanol Neutralization Pits	600,000 gallons	001
Storage Tank TK 38009	13,800 gallons	001
HTC Storm Water Impoundment	1,757,000 gallons	006
HTC Wastewater Sump	5,760 gallons	001
Storage Tank TK 38010	833,700 gallons	001
Storage Tank TK 38011	833,700 gallons	001
Storage Tank TK 3903	4,620,000 gallons	001
Storage Tank TK 48009	13,800 gallons	001
Storage Tank TK 48010	833,700 gallons	001
Storage Tank TK 48011	833,700 gallons	001
Maintenance Drum D- 8804	50,000 gallons	001
Wastewater Diversion Tank D-88014	250,000 gallons	001
Aeration/Clarifer Tanks TK-1709 A/B, TK-1740 A/B	1,600,000 gallons (aeration) 800,000 gallons (clarification)	001
OP1 Supernate Collection Tank TK 1718	1,500 gallons	001
OP2 Supernate Collection Tank TK 1739	1,500 gallons	001
Splitter Box	29,000 gallons	001
Phosphoric Acid Storage Tank	5,000 gallons	001
Wastewater Cooling System and Cooling Tower	3,025 gpm	001
D-8801 DSS Feed Drum	10,000 gallons	001
T-8801 Design Steam Stripper	217 gpm	001
T-8802 Design Steam Stripper	217 gpm	001
Notes gpm - gallons per minute gpd - gallons per day		



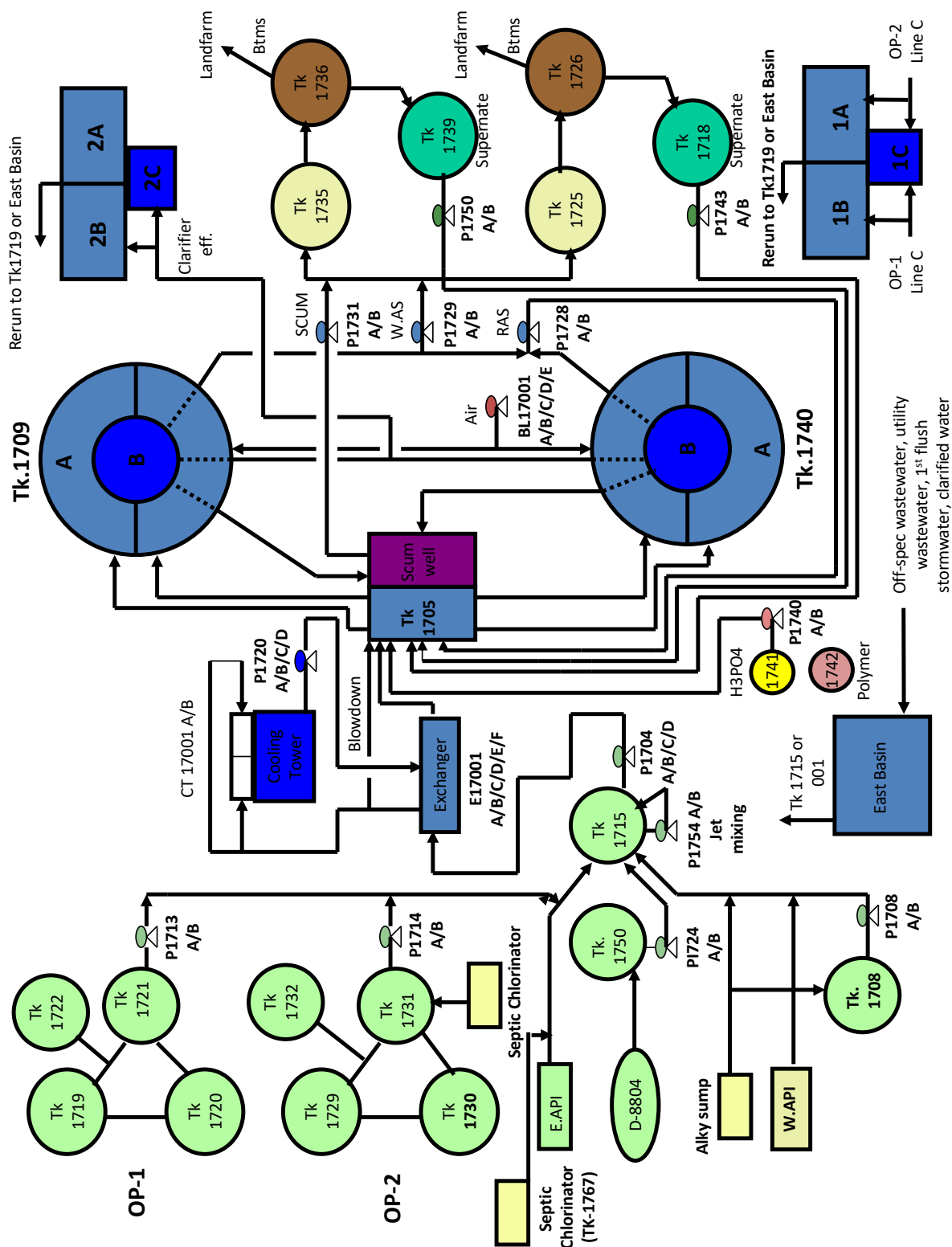


Figure 2. Wastewater Flow Diagram

Attachment T-4
Treatment Chemicals
Channelview North Complex
WQ000391000

Product	Purpose	Used By	Average Usage / Frequency (gpd)	Chemicals Listed in SDS	Aquatic Toxicity Data in SDS	Persistence / Bioaccumulative Information in SDS
<i>Cooling Towers</i>						
AF1440	Antifoam	Equistar	As needed	Distillates (petroleum), hydrotreated middle [64742-46-7]	Yes	Yes
				Fatty acid ethoxylate [61791-00-2]		
				Fatty acids C16-18 [67701-03-5]		
ECP8130	Yellow metal corrosion inhibitor	Equistar	15-50	Sodium hydroxide [1310-73-2]	Yes	No
				Acid derivative [TSRN 125438-999]		
BD1501E	Biodispersant	Equistar	1 - 20	Alcohols C10, alkoxyated [166736-08-9]	Yes	Yes
CL240	Antifoam	Equistar	As needed	No hazardous substances listed	Yes	No
CL241	Antifoam	EIF	3 - 6	No hazardous substances listed	Yes	No
CL456	Biodispersant	Equistar	20 - 25	No hazardous substances listed	Yes	No
CL2212	Biocide	Equistar	As needed	Glutaraldehyde [111-30-8]	Yes	Yes
CL2874	Molybdate, borax, TTA	Equistar	As needed	Sodium hydroxide [1310-73-2]	Yes	No
				Sodium tetraborate pentahydrate [12179-04-3]		
				Sodium molybdate [7631-95-0]		
CL4132	Halogen-resistant azole	Equistar	20 - 25	Halogenated aromatic heterocyclic sodium salt [N/A]	Yes	No
				Tolytriazole, sodium salt [64665-57-2]		
				Sodium hydroxide [1310-73-2]		
CL4896	Dispersant and scale inhibitor	Equistar	10 - 15	2-Phosphono-1,2,4-butane tricarboxylic acid [37971-36-1]	Yes	No
CL5681	Corrosion inhibitor	Equistar	10 - 20 and as needed	Sodium hydroxide [1310-73-2]	Yes	No
GN8020	Deposit control agent	Equistar	90 - 130	Carboxylic acid polymer [TSRN 125438-5052P]	Yes	Yes
GN8117	Corrosion inhibitor	Equistar	1 - 10	Sodium hydroxide [1310-73-2]	Yes	Yes
				Chlorotolytriazole sodium salt [202420-04-0]		
MD4107	Closed system corrosion inhibitor	Equistar	As needed	No hazardous substances listed	Yes	No
MS6206	Corrosion inhibitor	Equistar	5 - 40	Tetrapotassium pyrophosphate [7320-34-5]	Yes	No
NT4201	Water-based corrosion inhibitor	Equistar	As needed	Sodium nitrite [7632-00-0]	Yes	No
				Sodium hydroxide [1310-73-2]		
NX1102	Biocide	Equistar	As needed	2,2-Dibromo-3-nitropropionamide [10222-01-2]	Yes	Yes
NX1106	Biocide	Equistar	As needed	Magnesium nitrate [10377-60-3]	Yes	No
				Mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one [55965-84-9]		
PC1192	Coagulant	Equistar	100 - 700 (seasonal / weather influenced)	No hazardous substances listed	Yes	Yes
Sodium Hypochlorite	Biocide	EIF	150 - 200	Sodium hypochlorite [7681-52-9]	Yes	No
				Sodium chloride [7647-14-5]		
				Sodium hydroxide [1310-73-2]		
Sulfuric acid	pH control	EIF	75 -100	Sulfuric acid [7664-93-9]	Yes	Yes
<i>Boilers</i>						
BL 6213	pH and PO4 control	Equistar	1-10	Sodium hydroxide [1310-73-2]	No	No
BL1559	Neutralizing amine	Equistar	1 - 5	Cyclohexylamine [108-91-8]	Yes	Yes
	Condensate treatment	EIF	10 - 30	3-Methoxypropylamine [5332-73-0]		
BL1790	pH and PO4 control	Equistar	1 - 5	No hazardous substances listed	No	No
BL12895	Oxygen scavenger	Equistar	1 - 5	Hydroquinone [123-31-9]	Yes	No
HP54433	Corrosion inhibitor	Equistar	1 - 10	Polyphosphoric acids, sodium salts [68915-31-1]	No	No
HP54434	Corrosion inhibitor	Equistar	20	Polyphosphoric acids, sodium salts [68915-31-1]	Yes	No
				Sodium hydroxide [1310-73-2]		
HTP73301	Corrosion inhibitor	Equistar	12	No hazardous substances listed	Yes	Yes
HTP73611	Corrosion inhibitor	Equistar	6	Sodium hydroxide [1310-73-2]	Yes	Yes
NA8580	Neutralizing amine	Equistar	25	Ethanolamine [141-43-5]	Yes	Yes
				Cyclohexylamine [108-91-8]		
				Dimethylaminopropylamine (DMAPA) [109-55-7]		
				Diethanolamine [111-42-2]		
OS7785	Oxygen scavenger	Equistar	15	Hydroquinone [123-31-9]	Yes	Yes

gpd - gallons per day



SAFETY DATA SHEET

FOAMTROL* AF1440

1. Identification

Product identifier FOAMTROL AF1440
Other means of identification None.
Recommended use Antifoam
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2
Carcinogenicity Category 1B
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Aspiration hazard Category 1
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause cancer.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves. Wear eye protection/face protection.

Response IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Distillates(petroleum), hydrotreated middle	64742-46-7	60 - 80
Fatty acid ethoxylate	61791-00-2	2.5 - 10
Fatty acids, C16-18	67701-03-5	2.5 - 10

Composition comments	Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Carbon dioxide, dry chemicals, foam, water spray (fog).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch or walk through spilled material. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store away from oxidizers. Store in original tightly closed container. Store between 32 - 38 °C. If storage is below 32 °C, warm and mix prior to use to ensure homogeneity. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Liquid

Physical state

Liquid.

Form

Liquid.

Color

Amber

Odor

Hydrocarbon

Odor threshold

Not available.

pH (concentrated product)

Not available.

Melting point/freezing point

18 °F (-8 °C)

Initial boiling point and boiling range	350 °F (177 °C)
Flash point	> 200 °F (> 93 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1 (Air = 1)
Relative density	0.87
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	0 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	11 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	5.6 (5% EMULSION)
Pour point	< 60 °F (< 16 °C)
Specific gravity	0.87
VOC	53.9 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	May cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways.

Product	Species	Test Results
FOAMTROL AF1440		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 5 mg/l, 4 Hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)
Components	Species	Test Results
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	4.6 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Fatty acids, C16-18 (CAS 67701-03-5)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	This product is not expected to cause respiratory sensitization.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	Not classified.	
Carcinogenicity	May cause cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	Known To Be Human Carcinogen.	
Reproductive toxicity	Not classified.	
Specific target organ toxicity - single exposure	May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	May be fatal if swallowed and enters airways.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity

Product	Species		Test Results
FOAMTROL AF1440			
Aquatic			
Crustacea	LC50	Daphnia magna	720 mg/L, 48 hour
	NOEL	Daphnia magna	250 mg/L, 48 hour
Fish	LC50	Rainbow Trout	353 mg/L, 96 hour
	NOEL	Rainbow Trout	250 mg/L, 96 hour

Persistence and degradability

- COD (mgO₂/g) 1486 (calculated data)
- BOD 5 (mgO₂/g) 138 (calculated data)
- BOD 28 (mgO₂/g) 285 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 13 (calculated data)
- TOC (mg C/g) 500 (calculated data)

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

1,4-DIOXANE (CAS 123-91-1)
Ethylene oxide (oxirane) (CAS 75-21-8)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Ethylene oxide (oxirane) (CAS 75-21-8)

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration 21 CFR 176.210 (defoaming agents used in the manufacture of paper and paperboard)

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 148167
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)

California Proposition 65



WARNING: WARNING: This product can expose you to chemicals including Ethylene oxide (oxirane), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,4-DIOXANE (CAS 123-91-1) Listed: January 1, 1988
Ethylene oxide (oxirane) (CAS 75-21-8) Listed: July 1, 1987

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene oxide (oxirane) (CAS 75-21-8) Listed: August 7, 2009

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Ethylene oxide (oxirane) (CAS 75-21-8) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Ethylene oxide (oxirane) (CAS 75-21-8) Listed: August 7, 2009

16. Other information, including date of preparation or last revision

Issue date Nov-14-2014
Revision date Mar-04-2022
Version # 4.0
NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings**List of abbreviations**

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

Hazard(s) identification: Hazard statement
Hazard(s) identification: Disposal
Hazard(s) identification: Supplemental information
Composition/information on ingredients: Composition comments
Exposure controls/personal protection: Appropriate engineering controls
Exposure controls/personal protection: Eye/face protection
Exposure controls/personal protection: Respiratory protection
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Toxicological information: Germ cell mutagenicity
GHS: Classification

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

SPECTRUS* BD1501E

1. Identification

Product identifier	SPECTRUS BD1501E
Other means of identification	None.
Recommended use	Biodispersant
Recommended restrictions	Industrial use only.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Causes skin irritation. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Wear eye/face protection. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves.
Response	IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Alcohols, C10, alkoxylated	166736-08-9	10 - 20

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Call a POISON CENTER or doctor/physician if you feel unwell. If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.
Skin contact	Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Ventilate area, use specified protective equipment. Flush area with water. Wet area may be slippery.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not get this material in contact with eyes. Avoid contact with skin. Avoid contact with clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in cool, well ventilated area. Store away from oxidizers.

8. Exposure controls/personal protection

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Impervious gloves. Wash off after each use. Replace as necessary.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary. Not applicable.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color

Colorless

Physical state

Liquid

Odor

Mild

Odor threshold

Not available.

pH (concentrated product)

6.7

pH in aqueous solution

Not available.

Melting point/freezing point

31 °F (-1 °C)

Initial boiling point and boiling range

220 °F (104 °C)

Flash point

Not applicable.

Evaporation rate

< 1 (Ether = 1)

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

18 mm Hg

Vapor pressure temp.

70 °F (21 °C)

Vapor density

< 1 (Air = 1)

Relative density	1.02
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	110 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	36 °F (2 °C)
Specific gravity	1.019
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
Conditions to avoid	Avoid contact with strong oxidizers. Protect from freezing.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.

Product	Species	Test Results
SPECTRUS BD1501E (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	3570 mg/kg, (Calculated according to GHS additivity formula (Category 5))
Components	Species	Test Results
Alcohols, C10, alkoxylated (CAS 166736-08-9)		
Acute		
<i>Oral</i>		
LD50	Rat	500 - 2000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Not listed.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)	
Not regulated.	
US. National Toxicology Program (NTP) Report on Carcinogens	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
SPECTRUS BD1501E (CAS Mixture)			
Aquatic			
Crustacea	IC25	Ceriodaphnia	39.9 mg/l, Chronic Bioassay, 7 day
		Ceriodaphnia	200 mg/l, Static Renewal Bioassay, 48 hour
		Daphnia magna	38.2 mg/l, Static Renewal Bioassay, 48 hour
	NOEL	Ceriodaphnia	100 mg/l, Static Renewal Bioassay, 48 hour
		Daphnia magna	25 mg/l, Chronic Bioassay, 7 day
		Daphnia magna	12.5 mg/l, Static Renewal Bioassay, 48 hour
Fish	LC50	Fathead Minnow	82.5 mg/l, Static Renewal Bioassay, 96 hour
		Rainbow Trout	141.4 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Fathead Minnow	31.3 mg/l, Static Renewal Bioassay, 96 hour
		Rainbow Trout	100 mg/l, Static Renewal Bioassay, 96 hour

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO ₂ /g)	647 (calculated data)
- BOD 5 (mgO ₂ /g)	0 (calculated data)
- BOD 28 (mgO ₂ /g)	0 (calculated data)
- TOC (mg C/g)	0 (calculated data)

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes

Classified hazard categories

Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)	Hazardous substance

Safe Drinking Water Act (SDWA)	Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 141060
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Oct-27-2014
Revision date Feb-24-2020
Version # 3.0
NFPA ratings Health: 3
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
NFPA: National Fire Protection Association
ACGIH: American Conference of Governmental Industrial Hygienists
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
DOT: Department of Transportation (49 CFR 172.101).
IARC: International Agency for Research on Cancer.
OSHA: Occupational Safety & Health Administration.
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

1. Identification

Product identifier BL1559

Other means of identification

Product code BL1559

Recommended use Steam Line Treatment

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Health hazards Acute toxicity, oral Category 4

Skin corrosion/irritation Category 1

Serious eye damage/eye irritation Category 1

Sensitization, skin Category 1

Reproductive toxicity Category 2

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3

Hazardous to the aquatic environment, long-term hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Flammable liquid and vapor. Harmful if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic if inhaled. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist/vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	Rinse mouth. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	25% of the mixture consists of component(s) of unknown acute inhalation toxicity. 25% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Cyclohexylamine		108-91-8	20 - < 30
Methoxypropylamine (MOPA)		5332-73-0	20 - < 30
Other components below reportable levels			50 - < 60

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor/physician.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Dizziness. Nausea, vomiting. Diarrhea. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values

Components	Type	Value
Cyclohexylamine (CAS 108-91-8)	TWA	10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Cyclohexylamine (CAS 108-91-8)	TWA	40 mg/m ³
		10 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Methoxypropylamine (MOPA) (CAS 5332-73-0)	STEL	15 ppm
	TWA	5 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Cyclohexylamine (CAS 108-91-8)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Clear

Physical state

Liquid.

Form

Liquid. Liquid

Color

Colorless.

Odor

Strong

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

< -9.40 °F (< -23.00 °C) <

Initial boiling point and boiling range

211.95 °F (99.97 °C) estimated

Flash point

132.0 °F (55.6 °C)

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

9.2 hPa estimated

Vapor density

Not available.

Relative density

Not available.

Solubility(ies)

Solubility (water)

Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

559.4 °F (293 °C) estimated

Decomposition temperature

Not available.

Viscosity

0 - 200 cps

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	8.04
Specific gravity	0.96 @ 20C
VOC	50 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Aluminum.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	Toxic if inhaled.
Skin contact	Toxic in contact with skin. Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics	Dizziness. Nausea, vomiting. Diarrhea. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing.

Information on toxicological effects

Acute toxicity	Toxic if inhaled. Toxic in contact with skin. Harmful if swallowed.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product	Species	Test Results
BL1559		
Aquatic		
Crustacea	LC50	Ceriodaphnia dubia 519.63 mg/l, 48 hours Daphnia pulex 277 mg/l, 48 hours Opossum shrimp order (Mysida) 406 mg/l, 24 hours 330 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 1025 mg/l, 48 hours 659.75 mg/l, 96 hours Inland silverside (Menidia beryllina) 637 mg/l, 24 hours 470 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Cyclohexylamine 1.49

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F
D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN2734
UN proper shipping name Amines, Liquid, corrosive, flammable, n.o.s. (Cyclohexylamine and Methoxypropylamine (MOPA))
Transport hazard class(es)
Class 8
Subsidiary risk 3
Label(s) 8, 3
Packing group II
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions B2, IB2, T11, TP2, TP27
Packaging exceptions 132
Packaging non bulk 202
Packaging bulk 243

IATA

UN number UN2734
UN proper shipping name Amines, Liquid, corrosive, flammable, n.o.s. (Cyclohexylamine and Methoxypropylamine (MOPA))

Transport hazard class(es)

Class	8
Subsidiary risk	3
Label(s)	8, 3
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN2734
UN proper shipping name	Amines, Liquid, corrosive, flammable, n.o.s. (Cyclohexylamine and Methoxypropylamine (MOPA))
Transport hazard class(es)	
Class	8
Subsidiary risk	3
Label(s)	8, 3
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT**IATA; IMDG****15. Regulatory information**

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Cyclohexylamine (CAS 108-91-8)	Listed.
Methoxypropylamine (MOPA) (CAS 5332-73-0)	Listed.

SARA 304 Emergency release notification

Cyclohexylamine (CAS 108-91-8)	10000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Cyclohexylamine	108-91-8	10000	10000		

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)
 Acute toxicity (any route of exposure)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Respiratory or skin sensitization
 Reproductive toxicity

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Cyclohexylamine (CAS 108-91-8)

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	06-16-2021
Revision date	02-28-2023
Version #	02
HMIS® ratings	Health: 2 Flammability: 2 Physical hazard: 0 Personal protection: X

Disclaimer

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information

Transport Information: Material Transportation Information

Other information

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat BL1790
Product Use:	Boiler Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word:	None
GHS Classification(s):	Non-Hazardous Substance
Hazard Statement(s):	Non-Hazardous Substance
Precautionary Statement(s):	No significant health risks are expected from exposures under normal conditions of use.
Prevention:	None.
Response:	None.
Storage:	None.
Disposal:	None.
System of Classification Used:	Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
Hazards Not Otherwise Classified:	None.



Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: None known.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.



Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Colorless, Clear
Specific Gravity:	1.019 @ 20°C
pH:	4.4 @ 20°C, 100.0%
Freezing Point:	32°F
Flash Point:	N/D
Odor:	Odorless
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.50 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong bases.
Hazardous Decomposition Products:	Oxides of phosphorus, Oxides of sodium.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
ChemTreat BL1790	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation:	N/D
Eye Contact:	N/D
Skin Contact:	N/D
Ingestion:	N/D

Skin Corrosion/Irritation: N/D



Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
N/D	N/D	N/D	N/D

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Not tested.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA-regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	No
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A



Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF: N/A

Food Regulations: FDA: All ingredients in this product are authorized in 21 CFR 173.310 for use as "Boiler Water Additives" where the steam may contact food.

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.



Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019

Disclaimer

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SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat BL12895
Product Use:	Boiler Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification



Signal Word: **WARNING**

GHS Classification(s): Acute Toxicity Dermal – Category 5
Acute Toxicity Inhalation – Category 5
Acute Toxicity Oral – Category 3

Hazard Statement(s): H313 May be harmful in contact with skin.
H333 May be harmful if inhaled.
H301 Toxic if swallowed.

Precautionary Statement(s):

Prevention: P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.

Response: P301 + P310 IF SWALLOWED: Immediately call a
POISON CENTER or doctor/physician.
P330 Rinse mouth.
P312 Call a POISON CENTER or doctor/physician if
you feel unwell.

Storage: P405 Store locked up.

Disposal: P501 Dispose of contents and container in accordance
with applicable local, regional, national, and/or
international regulations.



System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Hydroquinone	123-31-9	3 - 7

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A



Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product emits toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802. Reportable Quantity of the product is 238 Gal.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Hydroquinone	ACGIH TLV	1 mg/m ³ TWA
	OSHA PEL	2 mg/m ³ TWA Skin; Sensitizer

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:

Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

Maintain quick-drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.010 @ 20°C
pH:	7.5 @ 20°C, 100.0%
Freezing Point:	36°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Complete
Evaporation Rate:	Similar to water
Vapor Density:	Similar to water
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A



Density:	8.42 LB/GA
Vapor Pressure:	Similar to water
% VOC:	6
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong acids.
Hazardous Decomposition Products:	Elemental oxides.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Hydroquinone	Oral	LD50	320 MG/KG	Rat
	Oral	LD50	245 MG/KG	Mouse
	Dermal	LD50	>900 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Hydroquinone	ACGIH	TLV-A3	Confirmed animal carcinogen with unknown relevance to humans
	IARC	IARC-3	Unclassifiable as to carcinogenicity in humans
	MAK	MAK-2	Considered to be carcinogenic based on animal studies

Likely Routes of Exposure: N/D



Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	2.87 mg/l
Fathead Minnow	96h	LC50	1.77 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D



Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA-regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
Over 238 GA	RQ UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	(HYDROQUINONE)	9	PGIII

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard
Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No



Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Hydroquinone	Yes	500/10000	100

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Hydroquinone	MA, MI, MN, NY, PA, WA

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	1
Flammability:	0
Physical Hazard:	0
PPE:	X

**Notes:**

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by:

Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date:

February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat BL6213
Product Use:	Boiler Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	January 27, 2020
Revision Date:	January 27, 2020
Revision Number:	20012701AN

Section 2. Hazard(s) Identification



Signal Word:	DANGER
GHS Classification(s):	Eye damage/irritation – Category 1 Skin corrosion/irritation – Category 1c
Hazard Statement(s):	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.
Precautionary Statement(s):	
Prevention:	P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P301 + 330 + 331 IF SWALLOWED: Rinse mouth.
Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair):
Remove/take off immediately all contaminated clothing.
Rinse skin with water/shower
P304 + P340 + P310 IF INHALED: Remove person
to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or
doctor/physician.
P305 + P351 + P338 IF IN EYES: Rinse
cautiously with water for several minutes. Remove contact
lenses, if present and easy to do. Continue rinsing.
P362 + P364 Take off contaminated clothing and wash
it before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance
with applicable local, regional, national, and/or
international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard
(29 CFR 1910.1200).

**Hazards Not Otherwise
Classified:**

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Sodium hydroxide	1310-73-2	0.1 – 1
Components not listed are either non hazardous or in concentration of less than 1%	N/A	90-100

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not easily combustible
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and/or absorb spill with inert material then place in suitable container.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802. None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium hydroxide	ACGIH TLV	2 mg/m ³ Ceiling
	OSHA PEL	2 mg/m ³ TWA
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin: Wear appropriate chemical resistant gloves.

Respiratory: Under normal use conditions, this product does not create airborne exposures above the OSHA PEL for listed constituents.
If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.115 @ 20°C
pH:	13.2 @ 20°C, 100.0%
Freezing Point:	38.3°F
Flash Point:	N/A
Odor:	Mild
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	N/D
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/D
Density:	9.30 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Oxidizers.

Hazardous Decomposition Products: None known.



Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium hydroxide	Oral	LD50	300 MG/KG	Rat
	Dermal	LD50	1350 MG/KG	Rabbit
ChemTreat BL6213	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium hydroxide	N/E	N/E	N/E
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D



Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
N/D	N/D	N/D	N/D

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SODIUM HYDROXIDE)	8	PGIII

Note: N/A



Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed or exempt.
All ingredients listed or exempt.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium hydroxide	N/A	N/A	1000
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium hydroxide	MA, MN, NY, PA, WA
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
Halal:	This product has not been evaluated for Halal approval.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	1
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value



Abbreviation	Definition
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: January 27, 2020

Disclaimer

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SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL240
Product Use:	Defoamer
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	July 19, 2019
Revision Date:	July 19, 2019
Revision Number:	19071902AN

Section 2. Hazard(s) Identification

Signal Word:	None
GHS Classification(s):	Non-Hazardous Substance
Hazard Statement(s):	Non-Hazardous Substance
Precautionary Statement(s):	No significant health risks are expected from exposures under normal conditions of use.
Prevention:	None.
Response:	None.
Storage:	None.
Disposal:	None.
System of Classification Used:	Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
Hazards Not Otherwise Classified:	None.



Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Product may emit toxic gases or fumes under fire conditions.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.



Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not freeze. Store above Freeze Point. If freezes, then product is unusable.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:	Safety glasses are recommended if risk of eye contact.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, White, Opaque
Specific Gravity:	1.006 @ 20°C
pH:	5.9 @ 20°C, 100.0%
Freezing Point:	34°F
Flash Point:	N/A
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Dispersible
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	1200 – 3200 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.39 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong acids, Strong oxidizers.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of silicon.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation:	N/D
Eye Contact:	N/D
Skin Contact:	N/D
Ingestion:	N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

 Single Exposure: N/D

 Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	LC50	6000 mg/l
Fathead Minnow	96h	LC50	8600 mg/l
Sheepshead Minnow	96h	LC50	>1000 mg/l
Mysid Shrimp	48h	LC50	>1000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA-regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDL):

All ingredients listed.
All ingredients listed.



Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	No
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: July 19, 2019



Disclaimer

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MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name: ChemTreat CL241
Product Use: Defoamer
Supplier's Name: ChemTreat, Inc.
Emergency Telephone Number: (800) 424-9300 (Toll Free)
(703) 527-3887
Address (Corporate Headquarters): 5640 COX ROAD
Glen Allen, VA 23060
Telephone Number for Information: (800) 648-4579
Date of MSDS: June 5, 2012

Section 2. Hazard(s) Identification



Signal Word: WARNING!

Hazard Statement(s): May be harmful in contact with skin.
May be harmful if inhaled.
May be harmful if swallowed.

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
There are no hazardous ingredients in this product as defined in 29 CFR 1910.1200.	Proprietary	N/A

Section 4. First Aid Measures

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Notes to Physician: N/A

Additional First Aid Remarks: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: None known.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods for Cleaning up: Contain and recover liquid when possible. Flush spill area with water spray.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
There are no hazardous ingredients in this product as defined in 29 CFR 1910.1200.		N/E

Carcinogenicity Category

Component	Source	Code	Brief Description
There are no hazardous ingredients in this product as defined in 29 CFR 1910.1200.			N/E

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:

Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

Maintain quick-drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid Emulsion, White, Opaque
Specific Gravity:	1.005 @ 20°C
pH:	2.9 @ 20°C, 100.0%
Freezing Point:	34°F
Flash Point:	212°F
Odor:	Mild
Melting Point:	N/A
Boiling Point:	N/D
Solubility in Water:	Dispersible
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	2000
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.38 lb/ga



Vapor Pressure:
% VOC

N/D
N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong bases, Strong oxidizers

Hazardous Decomposition Products: None known.

Possibility of Hazardous Reactions: None known.

Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D				

Comments: None.

Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	LC50	12000 mg/l
Fathead Minnow	96h	LC50	17200 mg/l

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA-regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

DOT

Proper Shipping Name:	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID
Technical Name:	N/A
Hazard Class:	Not D.O.T. Regulated
UN/NA#:	N/A
Packing Group:	N/A

IMDG

Proper Shipping Name:	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID
Technical Name:	N/A
Hazard Class:	Not D.O.T. Regulated
UN/NA#:	N/A
Packing Group:	N/A

TDG

Proper Shipping Name:	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID
Technical Name:	N/A
Hazard Class:	Not D.O.T. Regulated
UN/NA#:	N/A
Packing Group:	N/A

ICAO

Proper Shipping Name:	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID
Technical Name:	N/A
Hazard Class:	Not D.O.T. Regulated
UN/NA#:	N/A
Packing Group:	N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):	All ingredients listed.
Canada (DSL/NDSL):	All ingredients listed.



Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
There are no hazardous ingredients in this product as defined in 29 CFR 1910.1200.	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
There are no hazardous ingredients in this product as defined in 29 CFR 1910.1200.	None

International Regulations

Canada

WHMIS Classification: N/A

Controlled Product Regulations (CPR): N/A

Section 16. Other Information

HMIS Hazard Rating

Health: 0
Flammability: 0
Physical Hazard: 1
PPE: X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

NSF: N/A

FDA/USDA/GRAS: All ingredients in this product are authorized in 21 CFR 173.340 for use as "Defoaming Agents" where the treated water may contact food.

KOSHER: This product is certified by the Atlanta Kashruth Commission as kosher pareve.

FIFRA: N/A

Other: None

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Regulatory Affairs Department



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SAFETY DATA SHEET

1. Identification

Product identifier CL456
Other means of identification
Product code CL456
Recommended use Cooling Water Treatment
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards Not classified.
Label elements
Hazard symbol None.
Signal word None.
Hazard statement Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement
Prevention Avoid release to the environment.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information 20% of the mixture consists of component(s) of unknown acute dermal toxicity. 20% of the mixture consists of component(s) of unknown acute inhalation toxicity. 6% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 20% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid. Liquid
Color	Colorless.
Odor	Mild
Odor threshold	Not available.
pH	7 @ 100%
Melting point/freezing point	37.40 °F (3.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	> 200.0 °F (> 93.3 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.08 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	0 - 200 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	8.38
Specific gravity	1 - 1.01 @ 20C
VOC	1 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product	Species		Test Results
CL456			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	8.9 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10.8 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Halal

Compliance Information: Kosher

This product is certified by the Orthodox Unionas Kosher pareve

Only when prepared by the following ChemTreat facilities:

Eldridge IA
Ashland VA
Nederland TX



16. Other information, including date of preparation or last revision

Issue date 11-01-2022
Version # 01
HMIS® ratings Health: 1
Flammability: 0
Physical hazard: 0
Personal protection: X

Disclaimer ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier CL2212

Other means of identification

Product code CL2212

Recommended use Cooling Water Microbiocide

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 3
Acute toxicity, inhalation	Category 2
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Sensitization, respiratory	Category 1
Sensitization, skin	Category 1A
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Toxic if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Do not breathe vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.

Response	If swallowed: Immediately call a poison center/doctor. Rinse mouth. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Glutaraldehyde		111-30-8	50 - < 60
Other components below reportable levels			50 - < 60

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms/effects, acute and delayed	Nausea, vomiting. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing. Difficulty in breathing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values

Components	Type	Value
Glutaraldehyde (CAS 111-30-8)	Ceiling	0.05 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Glutaraldehyde (CAS 111-30-8)	Ceiling	0.8 mg/m3
		0.2 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid. Liquid
Color	Not available.
Odor	Mild
Odor threshold	Not available.
pH	3.1 - 4.5 100
Melting point/freezing point	12.20 °F (-11.00 °C) =
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.4 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	0 - 200 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	9.4
Specific gravity	1.12 - 1.14 @ 20C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong bases. Strong oxidizing agents. Amines.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.

Eye contact	Causes serious eye damage.	
Ingestion	Toxic if swallowed. Causes digestive tract burns.	
Symptoms related to the physical, chemical and toxicological characteristics	Nausea, vomiting. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing. Difficulty in breathing.	
Information on toxicological effects		
Acute toxicity	Fatal if inhaled. Toxic if swallowed.	
Components	Species	Test Results
Glutaraldehyde (CAS 111-30-8)		
Acute		
Dermal		
LD50	Rabbit	2560 mg/kg
Inhalation		
LC50	-	0.28 mg/l, 4 Hours
Oral		
LD50	Rat	96.1 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
ACGIH sensitization		
Glutaraldehyde, activated and inactivated (CAS 111-30-8)		Dermal sensitization
		Respiratory sensitization
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects.		
Product	Species		Test Results
CL2212			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	15.59 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	37.945 mg/l, 96 hours
		Ide silver or golden orfe (Leuciscus idus)	10 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	
Partition coefficient n-octanol / water (log Kow)	
Glutaraldehyde	-0.33
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (Glutaraldehyde)
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8,6.1
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (Glutaraldehyde)
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8,6.1
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (Glutaraldehyde)
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1
Label(s)	8,6.1
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Glutaraldehyde (CAS 111-30-8)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Halal

Compliance Information: Kosher

This product is certified by the Orthodox Unionas Kosher pareve and Kosher for Passover and year-round use. Only when prepared by the following ChemTreat facilities: Ashland, VA
Nederland, TX
Eldridge IA
Fontana CA
Ashland VA
Eldridge IA
Nederland TX
Fontana CA



Compliance Information: Biocide Regulation

PMRA biocide registration NO. 30490. Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA Registration Number: 15300-28.

16. Other information, including date of preparation or last revision

Issue date	03-07-2023
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: X

Disclaimer

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL2874
Product Use:	Closed System Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	March 25, 2020
Revision Date:	March 25, 2020
Revision Number:	20032501AN

Section 2. Hazard(s) Identification



Signal Word: **DANGER**

GHS Classification(s): Acute Toxicity Inhalation – Category 4
Eye damage/irritation – Category 2b
Skin corrosion/irritation – Category 3

Hazard Statement(s): H332 Harmful if inhaled.
H316 Causes mild skin irritation.
H320 Causes eye irritation.

Precautionary Statement(s):

Prevention: P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.

**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 Rinse mouth.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists, get medical advice/attention.
P332 + P313 If skin irritation develops or persists, get medical advice/attention.

Storage:

None.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Sodium hydroxide	1310-73-2	0.5 - 1.5
Sodium tetraborate pentahydrate	12179-04-3	1 - 5
Sodium molybdate	7631-95-0	5 - 10

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation:

Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Eyes:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.



Skin:	Remove contaminated clothing. Wash exposed area with large amounts of soap and water. If skin irritation develops or persists, get medical advice/attention.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product may emit toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

Section 7. Handling and Storage

Handling:

Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage:

Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not store or handle in aluminum, zinc, copper, or their alloys. Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium hydroxide	ACGIH TLV	2 mg/m ³ Ceiling
	OSHA PEL	2 mg/m ³ TWA
Sodium tetraborate pentahydrate	ACGIH TLV	6 mg/m ³ Ceiling; Aerosol
Sodium molybdate	N/E	N/E

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection**Eyes:**

Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

Maintain quick-drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Slightly Hazy
Specific Gravity:	1.098 @ 20°C
pH:	12.5 @ 20°C, 100.0%
Freezing Point:	-13°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Complete
Evaporation Rate:	As Water
Vapor Density:	As Water
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.12 LB/GA
Vapor Pressure:	As Water
% VOC:	0
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Acids.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of nitrogen.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium hydroxide	Oral	LD50	300 MG/KG	Rat
	Dermal	LD50	1350 MG/KG	Rabbit
Sodium tetraborate pentahydrate	Oral	LD50	>3200 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit
Sodium molybdate	Oral	LD50	2810 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium hydroxide	N/E	N/E	N/E
Sodium tetraborate pentahydrate	ACGIH	TLV-A4	Not classifiable as a human carcinogen.
Sodium molybdate	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	10000 mg/l
Fathead Minnow	96h	LC50	>10000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
IMDG	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
TDG	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
ICAO	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII



Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium hydroxide	N/A	N/A	1000
Sodium tetraborate pentahydrate	N/A	N/A	N/A
Sodium molybdate	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium hydroxide	MA, MN, NY, PA, WA
Sodium tetraborate pentahydrate	MA, WA
Sodium molybdate	None.

Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
Halal:	This product has not been evaluated for Halal approval.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	2
Flammability:	0
Physical Hazard:	1
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value



Abbreviation	Definition
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: March 25, 2020

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



Safety Data Sheet

1. Identification

Product Name: CL4132

Recommended Use: Cooling Water Treatment

Supplied by: ChemTreat, Inc.
5640 Cox Road
Glen Allen, Virginia 23060
E-Mail: productcompliance@chemtreat.com
www.chemtreat.com
(800) 648-4579

Emergency Telephone: (800) 424-9300

2. Hazards Identification

This substance or mixture is classified in accordance with 29 CFR 1910.1200.

Hazard Pictogram(s)



Signal Word
Danger

GHS CLASSIFICATION & HAZARD STATEMENTS

SERIOUS EYE DAMAGE - CATEGORY 1	H318	Causes serious eye damage.
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE - CATEGORY 3	H402	Harmful to aquatic life.
SKIN CORROSION - CATEGORY 1	H314	Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P316	Get emergency medical help immediately.
P321	Specific treatment is possible (refer to label).
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
P363	Wash contaminated clothing before reuse.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Statements
Halogenated aromatic heterocyclic sodium salt	proprietary	20 - 30	H314-318
Sodium hydroxide	1310-73-2	1 - 3	H302+H312-314-318
Tolyltriazole, sodium salt	64665-57-2	1 - 3	H302-314-318

The exact percentage (concentration) and/or specific chemical identity of the product composition has been withheld as a trade secret.
Full text of H-statements (if any): see Section 16

4. First-aid Measures



First Aid - General Advice: Provide general supportive measures and treat symptomatically. If any symptoms persist or in all cases of doubt, seek medical advice.

First Aid - Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

First Aid - Ingestion: Rinse mouth. Get medical attention if symptoms occur.

First Aid - Skin Contact: Immediately wash skin with plenty of water while removing any contaminated clothing. Call a physician or poison control center immediately if symptoms occur. Chemical burns must be treated by a physician.

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove eye contact lenses. Call a physician or poison control center immediately if symptoms persist.

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms. This material may be corrosive and potentially damaging to any tissue it comes in contact with. Symptoms may include irritation, stinging, tearing, redness, swelling, itching, burns, and blurred vision.

Notes to Physician: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Treat symptomatically.

5. Fire-fighting Measures

Fire and Explosion Hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Special Firefighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

6. Accidental Release Measures

Methods and Materials for Containment and Cleanup: Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if possible without risk. Absorb in vermiculite, sand, or earth and place into containers. Flush area with water.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental Precautions: Avoid release to the environment. Do not allow discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological information.

Advice for Emergency Responders: Keep unnecessary personnel away. Ventilate area. Observe and follow emergency procedures.

Personal Precautions: Refer to protective measures listed in sections 7 and 8.

7. Handling and Storage

Handling: Do not get in eyes, on skin or clothing. Keep container tightly closed. Wear personal protection equipment. Do not breath vapors. Wash thoroughly after handling.

Storage: Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store above Freeze Point.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Halogenated aromatic heterocyclic sodium salt	N.E.	N.E.	N.E.	N.E.

Sodium hydroxide	N.E.	N.E.	2 mg/m3	N.E.
Tolyltriazole, sodium salt	N.E.	N.E.	N.E.	N.E.

MEL = Maximum Exposure Limit OES = Occupational Exposure Standard N.E. = Not Established

Personal Protection

Respiratory Protection: If engineering controls do not maintain airborne concentrations below applicable exposure limits, an appropriate certified respirator must be worn.

Skin Protection: Wear appropriate chemical resistant gloves.

Eye Protection: Wear safety glasses with side shields (or goggles) and/or a face shield.

Other Protective Equipment: Wear suitable personal protective equipment. Eye wash facilities and emergency shower must be available when handling this product.

Hygienic Practices: Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls: Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

9. Physical and Chemical Properties

Appearance:	Clear	Color:	Dark Straw
Physical State:	Liquid	Odor:	Mild
Density, lb/gal:	9.68	Specific gravity, 20°C	1.161
Freeze Point, °C:	-11	pH:	13.00
Solubility in Water:	No Information	Viscosity:	No Information
Boiling Range, °C:	No Information	Flash Point, °C:	No Information
Volatile Organic Compounds, gr/ltr:	0	Combustibility:	No Information

10. Stability and Reactivity

Reactivity: No reactivity hazards known under recommended storage and use conditions.

Stability: Stable under normal conditions.

Conditions to Avoid: Contact with incompatible materials.

Incompatibility: Strong oxidizing agents.

Hazardous Decomposition Products: None known under recommended use and conditions.

11. Toxicological Information

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms. This material may be corrosive and potentially damaging to any tissue it comes in contact with. Symptoms may include irritation, stinging, tearing, redness, swelling, itching, burns, and blurred vision.

Effect of Overexposure - Inhalation: Under normal use conditions, this product is not expected to cause adverse health effects.

Effect Of Overexposure - Ingestion: May be harmful if swallowed. Rinse mouth. Call a physician or poison center if symptoms occur.

Effect of Overexposure - Skin Contact: May cause severe skin irritation or burns.

Effect Of Overexposure - Eye Contact: May cause serious eye irritation or damage.

Effect Of Overexposure - Chronic Hazards: No persistent or cumulative effects were observed. Under normal use conditions, this product is not expected to cause chronic health effects.

Carcinogenicity: Not classifiable as to carcinogenicity to humans.

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1310-73-2	Sodium hydroxide	325 mg/kg Rat	1350 mg/kg Rabbit	N.I.
64665-57-2	Tolyltriazole, sodium salt	1980 mg/kg Rat	>2000 mg/kg Rabbit	N.I.

N.I. = No Information

12. Ecological Information

Ecological Information: This product is classified as environmentally hazardous. Large or frequent spills can have a harmful or damaging effect on the environment and/or aquatic organisms.

Review substance(s) or product ecotoxicity data result(s) in this section below, if available. See SDS section 6 for accidental release

measures.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Ecological Effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Ecotoxicity

Species	Duration and Type	Test Results
Fathead minnow (<i>Pimephales promelas</i>)	NOEC for 7 days	12.5 mg/L
Ceriodaphnia dubia	NOEC for 7 days	12.5 mg/L
Ceriodaphnia dubia	LOEC for 7 days (mg/L)	25 mg/L
Fathead minnow (<i>Pimephales promelas</i>)	LOEC for 7 days (mg/L)	25 mg/L
Fathead minnow (<i>Pimephales promelas</i>)	LC50 for 96 hours	44.1 mg/L
Ceriodaphnia dubia	LC50 for 48 hours	108 mg/L
Ceriodaphnia dubia	IC25 for 7 days	22.4 mg/L
Fathead minnow (<i>Pimephales promelas</i>)	IC25 for 7 days	31.4 mg/L

13. Disposal Information

Disposal Instructions: Do not dispose or allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Hazardous Waste Code: D002: Waste Corrosive material [pH ≤ 2 or ≥ 12.5 , or corrosive to steel]. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

14. Transport Information

DOT

UN Number:	UN3267
Proper Shipping Name:	Corrosive liquid, basic, organic, n.o.s.
Technical Name:	(CHLOROTOLYLTRIAZOLE SODIUM SALT)
Hazard Class(es)	
Class:	8
Subsidiary Risk	No Information
Packing Group:	PGII
Special Precautions for user:	Read safety instructions, SDS and emergency procedures before handling
Reportable Quantity (RQ) lbs	50000 lbs (Hydroxyde de sodium)
ERG Code:	76

IATA

UN Number:	UN3267
Proper Shipping Name:	Corrosive liquid, basic, organic, n.o.s.
Technical Name:	(CHLOROTOLYLTRIAZOLE SODIUM SALT)
Hazard Class(es)	
Class:	8
Subsidiary Risk:	N/A
Packing Group:	PGII
Environmental Hazards:	Yes
ERG Code:	8L

IMDG

UN Number: UN3267
Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s.
Technical Name: (CHLOROTOLYLTRIAZOLE SODIUM SALT)
Hazard Class(es)
Class: 8
Subsidiary Risk: N/A
Packing Group: PGII
Marine Pollutant: No
EmS: F-A, S-B
Special Precautions for user: Read safety instructions, SDS and emergency procedures before handling

Special Transport Precautions: No Information

15. Regulatory Information**Federal Regulations:**

This safety data sheet was prepared in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated

CERCLA Hazardous Substance List (40 CFR 302.4)

Chemical Name	CAS-No.
Sodium hydroxide	1310-73-2

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely Hazardous Substances**

Chemical Name	CAS-No.	Threshold
Sodium hydroxide	1310-73-2	1000 lb

SARA 304 Emergency Release Notification

Chemical Name	CAS-No.
Sodium hydroxide	1310-73-2

SARA Section 311/312

Classified Hazard Categories Skin Corrosion or Irritation, Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated

OSHA Specifically Regulated Substances List (40 CFR 1910.1001-1053)

Not regulated

Clean Air Act (CAA)**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

California Proposition 65

Not regulated

International Regulations:**International Inventories:**

Country(s) or region	Inventory name	On inventory (yes/no)*
TSCA	United States Toxic Substances Control Act Inventory	Yes
DSL	Canadian Domestic Substances List	Yes
NDSL	Canadian Non-Domestic Substances List	No
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	Yes
ENCS	Japan Existing and New Chemical Substances	No
IECSC	China Inventory of Existing Chemical Substances	Yes
KECI	Korean Existing and Evaluated Chemical Substances	No
PICCS	Philippines Inventory of Chemicals and Chemical Substances	Yes
AICS	Australian Inventory of Chemical Substances	Yes
NZIoC	New Zealand Inventory of Chemicals	Yes
TCSI	Taiwan Chemical Substance Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Revision Date: 8/26/2024
Reason for revision: No Information
Datasheet produced by: productcompliance@chemtreat.com

HMIS Ratings:

Health:	3	Flammability:	0	Reactivity:	0	Personal Protection:	X

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Quadrasperse® CL4896
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word: **WARNING**

GHS Classification(s): Eye damage/irritation – Category 2b
Acute Toxicity Dermal – Category 5
Acute Toxicity Inhalation – Category 5
Acute Toxicity Oral – Category 5

Hazard Statement(s): H320 Causes eye irritation.
H313 May be harmful in contact with skin.
H333 May be harmful if inhaled.
H303 May be harmful if swallowed.

Precautionary Statement(s):

Prevention:	P264 Wash thoroughly after handling.
Response:	None.
Storage:	None.
Disposal:	None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
2-Phosphono-1,2,4-butane tricarboxylic acid	37971-36-1	1 - 5

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Product may emit toxic gases or fumes under fire conditions.



Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods for Cleaning up: Contain and recover liquid when possible. Flush spill area with water spray.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
2-Phosphono-1,2,4-butane tricarboxylic acid	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.



Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick-drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Dark Straw, Hazy
Specific Gravity:	1.130 @ 20°C
pH:	3.4 @ 20°C, 100.0%
Freezing Point:	32°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Complete
Evaporation Rate:	As Water
Vapor Density:	As Water
Molecular Weight:	N/D
Viscosity:	N/D
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.42 LB/GA
Vapor Pressure:	As Water
% VOC:	0
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong bases, Strong oxidizers.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of nitrogen, Oxides of phosphorus.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
2-Phosphono-1,2,4-butane tricarboxylic acid	Oral	LD50	>6500 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
2-Phosphono-1,2,4-butane tricarboxylic acid	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D



Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	1768 mg/l
Fathead Minnow	96h	LC50	3078 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Aquatic toxicity data is based on testing of a similar product.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA-regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
SCT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDL):

All ingredients listed.
All ingredients listed.



Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
2-Phosphono-1,2,4-butane tricarboxylic acid	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
2-Phosphono-1,2,4-butane tricarboxylic acid	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	2
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019



Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	FlexPro® Plus CL5681
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	July 18, 2019
Revision Date:	July 18, 2019
Revision Number:	19071801AN

Section 2. Hazard(s) Identification



Signal Word: **DANGER**

GHS Classification(s):
Skin corrosion/irritation – Category 1b
Eye damage/irritation – Category 1
Acute Toxicity Dermal – Category 4
Acute Toxicity Inhalation – Category 4
Acute Toxicity Oral – Category 4

Hazard Statement(s):
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H302 Harmful if swallowed.

Precautionary Statement(s):

Prevention:
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P301 + 330 + 331 IF SWALLOWED: Rinse mouth.
Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair):
Remove/take off immediately all contaminated clothing.
Rinse skin with water/shower
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P363 Wash contaminated clothing before reuse.

Storage:

None.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Sodium hydroxide	1310-73-2	1-5

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation:

Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Eyes:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.



Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802. Reportable Quantity of the product is 2047 Gal.

Section 7. Handling and Storage

Handling:

Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage:

Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium hydroxide	ACGIH TLV	2 mg/m ³ Ceiling
	OSHA PEL	2 mg/m ³ TWA

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection**Eyes:**

Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

Maintain quick-drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Brown, Clear
Specific Gravity:	1.171 @ 20°C
pH:	13.5 @ 20°C, 100.0%
Freezing Point:	24.8°F
Flash Point:	N/A
Odor:	Mild
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	N/D
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/D
Density:	9.77 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Acids.
Hazardous Decomposition Products:	None known.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium hydroxide	Oral	LD50	300 MG/KG	Rat
	Dermal	LD50	1350 MG/KG	Rabbit
FlexPro® Plus CL5681	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium hydroxide	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	1436 mg/l
Fathead Minnow	96h	LC50	2708 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
Over 2047 GA	RQ UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
IMDG	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
TDG	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII
SCT	UN1824	SODIUM HYDROXIDE SOLUTION	N/A	8	PGII

Note: N/A



Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium hydroxide	N/A	N/A	1000

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium hydroxide	MA, MN, NY, PA, WA



Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product is certified by the Orthodox Union as kosher pareve. Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX.
Halal:	This product has not been evaluated for Halal approval.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	1
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept



Abbreviation	Definition
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: July 18, 2019

Disclaimer

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SAFETY DATA SHEET

INHIBITOR ECP8130

1. Identification

Product identifier	INHIBITOR ECP8130
Other means of identification	None.
Recommended use	Corrosion inhibitor
Recommended restrictions	Industrial use only.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium hydroxide	1310-73-2	2.5 - 10
Acid Derivative	TSRN 125438 - 9999	

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color

Light yellow

Physical state

Liquid

Odor

Not available.

Odor threshold

Not available.

Melting point/freezing point

18 °F (-8 °C)

Initial boiling point and boiling range

212 °F (100 °C)

Flash point

> 199 °F (> 93 °C) P-M(CC)

Evaporation rate

Slower than Ether

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.21
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	8 mPa.s
Viscosity temperature	73 °F (23 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.206
VOC	0 % ESTIMATED
pH (concentrated product)	13.5 Neat
pH in aqueous solution	12.5 (5% Solution)

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Information on toxicological effects	
Acute toxicity	Not classified.

Components	Species	Test Results
Acid Derivative (CAS TSN 125438 - 9999)		
Acute		
Oral		
LD50	Rat	1720 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	This product is not expected to cause respiratory sensitization.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classified.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Based on available data, the classification criteria are not met.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity

Product	Species		Test Results	
INHIBITOR ECP8130 (CAS Mixture)				
Aquatic	Crustacea	LC50	Daphnia magna	365.9 mg/L, Static Renewal Bioassay, 48 H, (pH adjusted)
			Mysid Shrimp	182.1 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
		NOEL	Daphnia magna	250 mg/L, Static Renewal Bioassay, 48 H, (pH adjusted)
			Mysid Shrimp	125 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
	Fish	LC50	Fathead Minnow	163.4 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
			Rainbow Trout	44.2 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
		NOEL	Fathead Minnow	125 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
			Rainbow Trout	31.3 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)

Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	Not available.
Persistence and degradability	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution, RQ(Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	154
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION, RQ(Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Formaldehyde (CAS 50-00-0)

Hydrochloric acid (CAS 7647-01-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Formaldehyde (CAS 50-00-0)

Hydrochloric acid (CAS 7647-01-0)

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations

California Proposition 65



WARNING: WARNING: This product can expose you to Formaldehyde, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Formaldehyde (CAS 50-00-0) Listed: January 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date	Dec-15-2020
Revision date	Apr-14-2021
Version #	1.2
NFPA ratings	Health: 3 Flammability: 0 Instability: 0

NFPA ratings



List of abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
BOD: Biochemical Oxygen Demand
CAS: Chemical Abstract Service Registration Number
COD: Chemical Oxygen Demand
DOT: Department of Transportation (49 CFR 172.101).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
NFPA: National Fire Protection Association
IARC: International Agency for Research on Cancer.
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
LC50: Lethal Concentration, 50%
LD50: Lethal Dose, 50%
NOEL: No Observed Effect Level
OSHA: Occupational Safety & Health Administration.
STEL: Short Term Exposure Limit
TOC: Total Organic Carbon
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System.

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).



SAFETY DATA SHEET

GENGARD* GN8020

1. Identification

Product identifier	GENGARD GN8020
Other means of identification	None.
Recommended use	Deposit control agent
Recommended restrictions	None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1A
OSHA defined hazards	Not classified.	

Label elements



Signal word	Warning
Hazard statement	Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.
Precautionary statement	
Prevention	Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, protective clothing, eye protection and face protection.
Response	IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice or attention. If eye irritation persists: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.
Storage	Store away from incompatible materials.
Disposal	Not available.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Maleic acid	110-16-7	0.1 - 1
CARBOXYLIC ACID POLYMER	TSRN 125438 - 5052P	

Composition comments	Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash immediately with plenty of water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Skin irritation. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. In case of fire and/or explosion do not breathe fumes. Cool containers / tanks with water spray. Use standard firefighting procedures and consider the hazards of other involved materials.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with spilled material. Ensure adequate ventilation. Avoid breathing mist/vapor. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Small Spills: Place in waste disposal container. Wet area may be slippery. Spread sand/grit. Following product recovery, flush area with water. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Large Spills: Cover with plastic sheet to prevent spreading. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Ventilate the area. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices. Do not get in eyes, on skin, on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in cool, well ventilated area. Store containers closed when not in use. Avoid high temperatures. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection**Biological limit values**

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wash off after each use. Replace as necessary.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Appearance**

Liquid

Physical state

Liquid.

Form

Liquid.

Color

Amber to brown

Odor

Slightly sweet odor

Odor threshold

Not available.

pH (concentrated product)

2.6 Neat

Melting point/freezing point

27 °F (-3 °C)

Initial boiling point and boiling range

212 °F (100 °C)

Flash point

Not Applicable

Evaporation rate

Slower than Water

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits**Explosive limit - lower (%)**

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

18 mmHg

Vapor pressure temp.

70 °F (21 °C)

Vapor density

< 1

Relative density

1.17

Relative density temperature

70 °F (21 °C)

Solubility(ies)**Solubility (water)**

100 %

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

Viscosity

17 mPa.s

Viscosity temperature

70 °F (21 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	3 (5% Solution)
Pour point	32 °F (0 °C)
VOC	0 % ESTIMATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon, nitrogen, and sulphur evolved in fire.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics	Immediate effects: Severe eye irritation. Skin irritation. May cause redness and pain. Delayed effects: May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects**Acute toxicity**

Product	Species	Test Results
GENGARD GN8020		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
CARBOXYLIC ACID POLYMER		
<u>Acute</u>		
Oral		
LD50	Rat	4563 mg/kg
Maleic acid (CAS 110-16-7)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	1560 mg/kg
Inhalation		
LC50	Rat	> 2.88 mg/L, 4 Hour
Oral		
LD50	Rat	708 mg/kg

Skin corrosion/irritation	Causes skin irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Algae	IC50	Selenastrum (algae)	3872 mg/l, 96 hour (pH adjusted)
	NOEL	Selenastrum (algae)	2000 mg/l, 96 hour (pH adjusted)
Crustacea	LC50	Daphnia magna	3628 mg/l, 48 hour (pH adjusted)
	NOEL	Daphnia magna	1250 mg/l, 48 hour (pH adjusted)
Fish	LC50	Fathead Minnow	5814 mg/l, 96 hour (pH adjusted)
		Rainbow Trout	7071 mg/l, 96 hour (pH adjusted)
	NOEL	Fathead Minnow	5000 mg/l, 96 hour (pH adjusted)
		Rainbow Trout	5000 mg/l, 96 hour (pH adjusted)

Persistence and degradability

- COD (mgO₂/g) 359
- BOD 5 (mgO₂/g) 21
- BOD 28 (mgO₂/g) 3
- Closed Bottle Test (% Degradation in 28 days) 1 OECD 301D
- TOC (mg C/g) 142 (calculated data)

Bioaccumulative potential

Partition coefficient n-octanol / water (log K_{ow})

Maleic acid -0.48

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Maleic acid (CAS 110-16-7)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Acrylic acid (CAS 79-10-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 144523
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Sep-26-2014

Revision date Dec-27-2022

Version # 6.0

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
NFPA: National Fire Protection Association
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
CEN: European Committee for Standardisation
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

GENGARD* GN8117

1. Identification

Product identifier GENGARD GN8117
Other means of identification None.
Recommended use Corrosion inhibitor
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1
Health hazards Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material-damage.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium hydroxide	1310-73-2	2.5 - 10
Chlorotolyltriazole sodium salt	202420-04-0	1 - 2.5

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Wash thoroughly with soap and water for at least 30 minutes. Take off immediately all contaminated clothing. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact URGENT! Immediately flush eyes with water for 60 minutes while removing contact lenses. Keep eyelids apart. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Alkaline. Do not mix with acidic material. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Do not get this material on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Store away from acids.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Splash proof chemical goggles. Face shield.

Skin protection

Hand protection

Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color

Amber to brown

Physical state

Liquid

Odor

Slight ammonia odor

Odor threshold

Not available.

pH (concentrated product)

> 13 Neat

pH in aqueous solution

12.6 (5% Solution)

Melting point/freezing point

-0.04 °F (-18 °C)

Initial boiling point and boiling range

219 °F (104 °C)

Flash point

> 214 °F (> 101 °C) P-M(CC)

Evaporation rate

Slower than Ether

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 18 mmHg

Vapor pressure temp. 70 °F (21 °C)

Vapor density < 1

Relative density 1.26

Relative density temperature 70 °F (21 °C)

Solubility(ies)

Solubility (water) 100 %

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 42 mPa.s

Viscosity temperature 70 °F (21 °C)

Other information

Pour point 5 °F (-15 °C)

Specific gravity 1.256

VOC 0 % ESTIMATED

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur. Contact with strong acids may cause a violent reaction releasing heat.

Conditions to avoid Contact with incompatible materials. Avoid contact with strong acids.

Incompatible materials Avoid contact with strong acids. Avoid contact with strong oxidizers. Avoid contact with aluminium or zinc alloys.

Hazardous decomposition products Oxides of carbon, nitrogen, phosphorus, and sulphur evolved in fire. Chlorine compounds.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Skin contact Causes severe skin burns.

Eye contact Causes serious eye damage.

Ingestion May cause severe irritation or burning of mouth, throat, and gastrointestinal tract with severe chest and abdominal pain, nausea, vomiting, diarrhea, lethargy and collapse. Possible death when ingested in very large doses.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
GENGARD GN8117 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Components	Species	Test Results
Chlorotolyltriazole sodium salt (CAS 202420-04-0)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	3100 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg
* Estimates for product may be based on additional component data not shown.		
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	This product is not expected to cause respiratory sensitization.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity

Product	Species		Test Results
GENGARD GN8117 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	1000 mg/L, Acute Toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna	700 mg/L, Acute Toxicity, 48 hour, (Estimated)
Fish	LC50	Fathead Minnow	300 mg/L, Acute Toxicity, 96 hour, (Estimated)
	NOEL	Fathead Minnow	160 mg/L, Acute Toxicity, 96 hour, (Estimated)

Components		Species	Test Results
Chlorotolyltriazole sodium salt (CAS 202420-04-0)			
Aquatic			
Algae	EbC50	Algae	6.84 mg/l
	ErC50	Algae	18.6 mg/l

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO2/g)	211 (calculated data)
- BOD 5 (mgO2/g)	12 (calculated data)
- BOD 28 (mgO2/g)	25 (calculated data)
- TOC (mg C/g)	62 (calculated data)

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide, HALOGENATED AROMATIC HETEROCYCLE), RQ(Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Not available.
ERG number	154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN1760

UN proper shipping name	Corrosive Liquid, N.O.S. (Sodium hydroxide, Chlorotolyltriazole sodium salt)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	154
Special precautions for user	Not available.

IMDG

UN number	UN1760
UN proper shipping name	Corrosive Liquid, N.O.S. (SODIUM HYDROXIDE, Chlorotolyltriazole sodium salt), RQ(Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Not available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Formaldehyde (CAS 50-00-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Formaldehyde (CAS 50-00-0)

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets

Registration No. – 146101

USDA (according to 1998

Category Code(s):

guidelines):

G5 Cooling and retort water treatment products

G7 Boiler, steam line treatment products – nonfood contact

US state regulations**US. California Proposition 65**

WARNING: This product can expose you to chemicals including Formaldehyde, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Formaldehyde (CAS 50-00-0)

Listed: January 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision**Issue date**

Nov-17-2014

Revision date

May-29-2019

Version #

5.0

NFPA ratings

Health: 3

Flammability: 0

Instability: 0

NFPA ratings

List of abbreviations CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
ACGIH: American Conference of Governmental Industrial Hygienists
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
NFPA: National Fire Protection Association

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information Composition/information on ingredients: Composition comments
Handling and storage: Conditions for safe storage, including any incompatibilities
Transport Information: Material Transportation Information
Regulatory information: California Prop 65
Other information, including date of preparation or last revision: List of abbreviations
HazReg Data: Europe - EU
GHS: Classification

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

OPTISPERSE* HP54433

1. Identification

Product identifier OPTISPERSE HP54433
Other means of identification None.
Recommended use Water based internal boiler treatment chemical.
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Polyphosphoric acids, sodium salts	68915-31-1	2.5 - 10

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Remove contaminated clothing. Get medical attention if irritation develops and persists.
Eye contact	Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. Dilute contents of stomach using 3-4 glasses milk or water. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder. Carbon dioxide (CO ₂). Foam or water create a slippery condition. Spread sand or grit.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Do not freeze. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Splash proof chemical goggles.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Color	Colorless
Physical state	Liquid
Odor	None
Odor threshold	Not available.
pH (concentrated product)	6.9
pH in aqueous solution	7.7 (5% SOL.)
Melting point/freezing point	31 °F (-1 °C)
Initial boiling point and boiling range	210 °F (99 °C)
Flash point	> 200 °F (> 93 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.02
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	5 cps
Viscosity temperature	70 °F (21 °C)

Other information

Pour point	36 °F (2 °C)
Specific gravity	1.024
VOC	0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Elemental oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Mists or aerosols cause irritation to upper respiratory tract.
Skin contact	Prolonged or repeated contact may cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause slight gastrointestinal irritation.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
OPTISPERSE HP54433 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. May be harmful if swallowed and enters airways.

Further information This product has no known adverse effect on human health.

Material name: OPTISPERSE* HP54433

Version number: 1.1

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
Environmental fate	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods. Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
SARA 304 Emergency release notification	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	Not listed.
SARA 311/312 Hazardous chemical	Yes
SARA 313 (TRI reporting)	Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. Other information, including date of preparation or last revision

Issue date Feb-03-2015

Revision date Dec-17-2017

Version # 1.1

List of abbreviations

CAS: Chemical Abstract Service Registration Number
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
LD50: Lethal Dose, 50%
NFPA: National Fire Protection Association

References: No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

Physical and chemical properties: Color
Toxicological Information: Toxicological Data
Other information, including date of preparation or last revision: Prepared by
GHS: Classification

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

OPTISPERSE* HP54434

1. Identification

Product identifier OPTISPERSE HP54434
Other means of identification None.
Recommended use Internal boiler water treatment
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1
Health hazards Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in a corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Polyphosphoric acids, sodium salts	68915-31-1	2.5 - 10
Sodium hydroxide	1310-73-2	2.5 - 10

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color

Colorless to light yellow

Physical state

Liquid

Odor

Odorless

Odor threshold

Not available.

pH (concentrated product)	> 13 Neat
pH in aqueous solution	12.3 (5% Solution)
Melting point/freezing point	29 °F (-2 °C)
Initial boiling point and boiling range	210 °F (99 °C)
Flash point	> 199 °F (> 93 °C) P-M(CC)
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.07
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	8 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	34 °F (1 °C)
Specific gravity	1.068
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur. Contact with strong acids may cause a violent reaction releasing heat.
Conditions to avoid	Keep away from heat, sparks and open flame. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
OPTISPERSE HP54434 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1350 mg/kg
<i>Oral</i>		
LD50	Rabbit	> 500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be harmful if swallowed and enters airways. Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity			
Product		Species	Test Results
OPTISPERSE HP54434 (CAS Mixture)			
	NOEL	Fathead Minnow	5000 mg/L, Acute Toxicity, 96 hour, (Estimated)
Aquatic			
Crustacea	LC50	Daphnia magna	> 5000 mg/L, Acute Toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna	4950 mg/L, Acute Toxicity, 48 hour, (Estimated)

Bioaccumulative potential No data available.

Mobility in soil	No data available.
Other adverse effects	Not available.
Persistence and degradability	No data is available on the degradability of this product.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide, SODIUM PHOSPHATES), RQ(Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide, SODIUM PHOSPHATES)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	154
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE, SODIUM PHOSPHATES), RQ(Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

US - Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

US - Pennsylvania RTK - Hazardous Substances

Sodium hydroxide (CAS 1310-73-2) Listed.

US - Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2) Listed.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. Other information, including date of preparation or last revision

Issue date Dec-05-2014

Revision date May-27-2018

Version # 3.2

List of abbreviations CAS: Chemical Abstract Service Registration Number
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
LD50: Lethal Dose, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code

References: No data available

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Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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SAFETY DATA SHEET

OPTISPERSE* HTP73301

1. Identification

Product identifier	OPTISPERSE HTP73301
Other means of identification	None.
Recommended use	Water based internal boiler treatment chemical.
Recommended restrictions	Industrial use only.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.

Hazard statement The mixture does not meet the criteria for classification. The material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard's (29CFR 1910.1200) implementation of the Globally Harmonized System (GHS), i.e., material is not a dangerous substance or mixture requiring GHS classification.

Precautionary statement

Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container to approved local facility.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Yellow to amber
Physical state	Liquid
Odor	Slight
Odor threshold	Not available.
Melting point/freezing point	28 °F (-2 °C)
Initial boiling point and boiling range	210 °F (99 °C)
Flash point	> 200 °F (> 93 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.04
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	6 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	33 °F (1 °C)
Specific gravity	1.041
VOC	0 % (Calculated)
pH (concentrated product)	9.6
pH in aqueous solution	10.2 (5% SOL.)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	Not available.
Conditions to avoid	Protect from freezing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Prolonged or repeated contact may cause transient irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause slight gastrointestinal irritation.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
OPTISPERSE HTP73301 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met.

Further information This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity

Product	Species		Test Results
OPTISPERSE HTP73301 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	4360 mg/L, Acute Toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna	910 mg/L, Acute Toxicity, 48 hour, (Estimated)
Fish	LC50	Fathead Minnow	> 5000 mg/L, Acute Toxicity, 96 hour, (Estimated)
	NOEL	Fathead Minnow	3460 mg/L, Acute Toxicity, 96 hour, (Estimated)

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO2/g)	57 (calculated data)
- BOD 5 (mgO2/g)	6 (calculated data)
- BOD 28 (mgO2/g)	6 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	10 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days)	17 (calculated data)
- TOC (mg C/g)	15 (calculated data)

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Hydroquinone (CAS 123-31-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration All ingredients in this product are authorized in 21 CFR176.170 for use in boilers where the steam will be used for manufacturing paper or paperboard.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

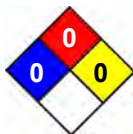
No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Nov-25-2014
Revision date May-28-2020
Version # 3.0
NFPA ratings Health: 0
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
LD50: Lethal Dose, 50%
DOT: Department of Transportation (49 CFR 172.101).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
NFPA: National Fire Protection Association
IARC: International Agency for Research on Cancer.
OSHA: Occupational Safety & Health Administration.

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

OPTISPERSE* HTP73611

1. Identification

Product identifier	OPTISPERSE HTP73611
Other means of identification	None.
Recommended use	Water based internal boiler treatment chemical.
Recommended restrictions	Industrial use only.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in a corrosive resistant container with a resistant inner liner.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium hydroxide	1310-73-2	2.5 - 10

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Carbon dioxide (CO ₂). Foam. Dry chemical powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color Yellow to amber

Physical state Liquid

Odor Slight

Odor threshold Not available.

Melting point/freezing point 25 °F (-4 °C)

Initial boiling point and boiling range 210 °F (99 °C)

Flash point > 200 °F (> 93 °C) P-M(CC)

Evaporation rate < 1 (Ether = 1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.08
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	6 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	30 °F (-1 °C)
Specific gravity	1.076
VOC	0 % (Calculated)
pH (concentrated product)	13
pH in aqueous solution	12.3 (5% SOL.)

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None under normal conditions.
Incompatible materials	Avoid contact with strong acids and oxidisers. Strong acids. Strong oxidizing agents. Metals.
Hazardous decomposition products	Oxides of carbon and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
OPTISPERSE HTP73611 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Product	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1350 mg/kg
<i>Oral</i>		
LD50	Rabbit	> 500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
OPTISPERSE HTP73611 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	> 5000 mg/L, Acute Toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna	3050 mg/L, Acute Toxicity, 48 hour, (Estimated)
Fish	NOEL	Fathead Minnow	5000 mg/L, Acute Toxicity, 96 hour, (Estimated)

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO2/g) 56 (calculated data)

- BOD 5 (mgO2/g)	6 (calculated data)
- BOD 28 (mgO2/g)	6 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	11 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days)	18 (calculated data)
- TOC (mg C/g)	15 (calculated data)

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.
ERG number	154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	154
Special precautions for user	Not available.

IMDG

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Not available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

CHROMIUM (CAS 7440-47-3)

NICKEL (CAS 7440-02-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations

California Proposition 65



WARNING: WARNING: This product can expose you to NICKEL, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

NICKEL (CAS 7440-02-0) Listed: October 1, 1989

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Nov-25-2014

Revision date Jun-05-2020

Version # 4.0

NFPA ratings Health: 3
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
LD50: Lethal Dose, 50%
DOT: Department of Transportation (49 CFR 172.101).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
NFPA: National Fire Protection Association
IARC: International Agency for Research on Cancer.
OSHA: Occupational Safety & Health Administration.

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

Identification: Recommended restrictions
Hazard(s) identification: Prevention
Hazard(s) identification: Response
Hazard(s) identification: Storage
Composition/information on ingredients: Composition comments
First-aid measures: Inhalation
Accidental release measures: Methods and materials for containment and cleaning up
Handling and storage: Conditions for safe storage, including any incompatibilities
Exposure controls/personal protection: Hand protection
Exposure controls/personal protection: Other
Stability and reactivity: Conditions to avoid
Regulatory information: California Proposition 65
Regulatory information: US federal regulations
Other information, including date of preparation or last revision: List of abbreviations

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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SAFETY DATA SHEET

CORRSHIELD* MD4107

1. Identification

Product identifier	CORRSHIELD MD4107
Other means of identification	None.
Recommended use	Closed system corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification. The material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard's (29CFR 1910.1200) implementation of the Globally Harmonized System (GHS), i.e., material is not a dangerous substance or mixture requiring GHS classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container to approved local facility.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Wash off with soap and water.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Protect from freezing.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Splash proof chemical goggles.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Colorless
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH in aqueous solution	11.6 (5% SOL.)
Melting point/freezing point	16 °F (-9 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	> 200 °F (> 93 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.4
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	17 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	21 °F (-6 °C)
Specific gravity	1.396
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Avoid contact with strong acids and oxidisers.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause irritation to respiratory organs.
Skin contact	Prolonged or repeated contact may cause transient irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause gastrointestinal irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Prolonged and repetitive exposure, depending on the route(s), may develop transient irritation on skin, eyes, ingestion tract, and/or respiratory tract.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
CORRSHIELD MD4107 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Estimated value; 100% neat material rabbit dermal LD50: >1,000 mg/kg)
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours, (100% neat material maximum achievable concentration LC50: >8.68 mg/L/4hr)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Estimated value; 100% neat material rat oral LD50: 2,810 mg/kg)

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be harmful if swallowed and enters airways. Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product	Species		Test Results
CORRSHIELD MD4107 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	9200 mg/L, Static Acute Bioassay, 48 hour
	NOEL	Daphnia magna	5140 mg/L, Static Acute Bioassay, 48 hour
Fish	LC50	Bluegill Sunfish	19400 mg/L, Static Acute Bioassay, 96 hour
		Fathead Minnow	21800 mg/L, Static Acute Bioassay, 96 hour
		Rainbow Trout	20970 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Bluegill Sunfish	6850 mg/L, Static Acute Bioassay, 96 hour
		Fathead Minnow	16000 mg/L, Static Acute Bioassay, 96 hour
		Rainbow Trout	9140 mg/L, Static Acute Bioassay, 96 hour
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	Not available.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Jan-30-2017

Revision date May-28-2019

Version # 2.0

NFPA ratings Health: 0
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
LD50: Lethal Dose, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
NFPA: National Fire Protection Association

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

Hazard(s) identification: Hazard statement
Composition/information on ingredients: Composition comments
Accidental release measures: Methods and materials for containment and cleaning up
Accidental release measures: Personal precautions, protective equipment and emergency procedures
Handling and storage: Conditions for safe storage, including any incompatibilities
Exposure controls/personal protection: Hand protection
Stability and reactivity: Conditions to avoid
Toxicological information: Carcinogenicity
Regulatory information: California Prop 65
Other information, including date of preparation or last revision: List of abbreviations

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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SAFETY DATA SHEET

FLOGARD* MS6206

1. Identification

Product identifier	FLOGARD MS6206
Other means of identification	None.
Recommended use	Corrosion inhibitor
Recommended restrictions	Industrial use only.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
OSHA defined hazards	Not classified.	

Label elements



Signal word Warning

Hazard statement May be corrosive to metals. Causes skin irritation. Causes eye irritation.

Precautionary statement

Prevention Keep only in original container. Wash thoroughly after handling. Wear protective gloves.

Response If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Absorb spillage to prevent material-damage. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take off contaminated clothing and wash it before reuse.

Storage Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Tetrapotassium pyrophosphate	7320-34-5	2.5 - 10

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate ventilation. Provide eyewash station and safety shower.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Odorless
Odor threshold	Not available.
pH (concentrated product)	8.8 Neat
Melting point/freezing point	< -0.04 °F (< -18 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	> 199 °F (> 93 °C) P-M(CC)
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.53
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	12 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

pH in aqueous solution	7.8 (5% Solution)
Pour point	< 5 °F (< -15 °C)
Specific gravity	1.53
VOC	0 % ESTIMATED

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials. None under normal conditions.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	Oxides of phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
FLOGARD MS6206		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Estimated value)
Oral		
LD50	Rat	> 5000 mg/kg (Estimated value)
Components	Species	Test Results
Tetrapotassium pyrophosphate (CAS 7320-34-5)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	2440 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	This product is not expected to cause respiratory sensitization.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	Not classified.	
Carcinogenicity	Not classified.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.

12. Ecological information

Ecotoxicity

Product	Species		Test Results
FLOGARD MS6206			
Aquatic			
Crustacea	LC50	Daphnia magna	1275 mg/L, 48 hour
		Mysid Shrimp	724 mg/L, 48 hour
	NOEL	Daphnia magna	500 mg/L, 48 hour
		Mysid Shrimp	155 mg/L, 48 hour
Fish	LC50	Fathead Minnow	1740 mg/L, 96 hour
		Rainbow Trout	> 1000 mg/L, 96 hour (Estimated)
	NOEL	Fathead Minnow	1000 mg/L, 96 hour
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	Not available.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (TETRA POTASSIUM PYROPHOSPHATE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	154

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Tetrapotassium pyrophosphate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-

Packing group	III
Environmental hazards	No.
ERG Code	154
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Tetrapotassium pyrophosphate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration 21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Oct-10-2014

Revision date Mar-07-2022

Version # 3.1

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

AICIS: Australian Inventory of Industrial Chemicals.
DOT: Department of Transportation (49 CFR 172.101).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer.
OSHA: Occupational Safety & Health Administration.
WHMIS: Workplace Hazardous Materials Information System.
CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
LD50: Lethal Dose, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
NFPA: National Fire Protection Association
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

STEAMATE* NA8580

1. Identification

Product identifier STEAMATE NA8580
Other means of identification None.
Recommended use Steam condensate treatment.
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements



Signal word

Danger

Hazard statement

Flammable liquid and vapor. Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Ethanolamine	141-43-5	40 - 60
Cyclohexylamine	108-91-8	2.5 - 10
Dimethylaminopropylamine (DMAPA)	109-55-7	2.5 - 10
Diethanolamine	111-42-2	0.1 - 1

Composition comments	Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Call a physician or poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Never return spills to original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethanolamine (CAS 141-43-5)	PEL	6 mg/m3 3 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Cyclohexylamine (CAS 108-91-8)	TWA	10 ppm	
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Ethanolamine (CAS 141-43-5)	STEL	6 ppm	
	TWA	3 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Cyclohexylamine (CAS 108-91-8)	TWA	40 mg/m3 10 ppm
Diethanolamine (CAS 111-42-2)	TWA	15 mg/m3 3 ppm
Ethanolamine (CAS 141-43-5)	STEL	15 mg/m3 6 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
	TWA	8 mg/m3 3 ppm
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Exposure guidelines		
US ACGIH Threshold Limit Values: Skin designation		
	Diethanolamine (CAS 111-42-2)	Danger of cutaneous absorption
Appropriate engineering controls	Explosion-proof general and local exhaust ventilation. Eye wash facilities and emergency shower must be available when handling this product.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.	
Skin protection		
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Suitable gloves can be recommended by the glove supplier. Glove selection must take into account any solvents and other hazards present.	
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.	

9. Physical and chemical properties**Appearance**

Color	Colorless to yellow
Physical state	Liquid
Odor	Strong odor
Odor threshold	Not available.
Melting point/freezing point	< -10 °F (< -23 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	126 °F (52 °C) SETA(CC)
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1
Relative density	1
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	24 mPa.s

Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	0.999
VOC	62 % CALCULATED
pH (concentrated product)	13.3 Neat
pH in aqueous solution	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Avoid contact with strong acids. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns. Harmful in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity	Harmful in contact with skin. Harmful if swallowed. May cause respiratory irritation. May cause an allergic skin reaction.

Product	Species	Test Results
STEAMATE NA8580 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1184 mg/kg, (Calculated according to GHS additivity formula (Category 4))
<i>Inhalation</i>		
LC50	Rat	> 20 mg/l, 4 Hours, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	895 mg/kg, (Calculated according to GHS additivity formula (Category 4))
Components	Species	Test Results
Cyclohexylamine (CAS 108-91-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	277 mg/kg
<i>Oral</i>		
LD50	Rat	156 mg/kg

Components	Species	Test Results
Diethanolamine (CAS 111-42-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	4000 mg/kg
<i>Oral</i>		
LD50	Rat	1600 mg/kg
Dimethylaminopropylamine (DMAPA) (CAS 109-55-7)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 4.3 mg/l, 4 Hour
<i>Oral</i>		
LD50	Rat	410 mg/kg
Ethanolamine (CAS 141-43-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1025 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 1.5 mg/l, 4 Hour
<i>Oral</i>		
LD50	Rat	1720 mg/kg
* Estimates for product may be based on additional component data not shown.		
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	This product is not expected to cause respiratory sensitization.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Suspected of causing cancer.	
ACGIH Carcinogens		
Cyclohexylamine (CAS 108-91-8)	A4 Not classifiable as a human carcinogen.	
Diethanolamine (CAS 111-42-2)	A3 Confirmed animal carcinogen with unknown relevance to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Diethanolamine (CAS 111-42-2)	2B Possibly carcinogenic to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	Suspected of damaging fertility or the unborn child.	
Specific target organ toxicity - single exposure	May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not classified.	
Chronic effects	May be harmful if absorbed through skin. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	
	Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.	

12. Ecological information

Ecotoxicity

Product		Species	Test Results
STEAMATE NA8580 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	174.1 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	100 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
Fish	LC50	Fathead Minnow	208 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead Minnow	100 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Cyclohexylamine	1.49
Diethanolamine	-1.43
Ethanolamine	-1.31

Bioconcentration factor (BCF)

Diethanolamine	3
Ethanolamine	3

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO ₂ /g)	973 (calculated data)
- BOD 5 (mgO ₂ /g)	257 (calculated data)
- BOD 28 (mgO ₂ /g)	265 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	30 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days)	78 (calculated data)
- TOC (mg C/g)	278 (calculated data)

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2734
UN proper shipping name	Amines, liquid, corrosive, flammable, n.o.s. (Ethanolamine, CYCLOHEXYLAMINE), RQ(Diethanolamine, Aniline (Benzenamine))
Transport hazard class(es)	
Class	8
Subsidiary risk	3

Material name: STEAMATE* NA8580

Version number: 5.3

Packing group II
Special precautions for user Not available.
ERG number 132

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number UN2734
UN proper shipping name AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. (Ethanolamine; Cyclohexylamine)
Transport hazard class(es)
Class 8
Subsidiary risk 3
Packing group II
Environmental hazards No.
Special precautions for user Not available.

IMDG

UN number UN2734
UN proper shipping name AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. (Ethanolamine; Cyclohexylamine)
Transport hazard class(es)
Class 8
Subsidiary risk 3
Packing group II
Environmental hazards
Marine pollutant No.
EmS Not available.
Special precautions for user Not available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Diethanolamine (CAS 111-42-2) Listed.

SARA 304 Emergency release notification

Cyclohexylamine (CAS 108-91-8) 10000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Cyclohexylamine	108-91-8	10000	10000		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

- Flammable (gases, aerosols, liquids, or solids)
- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Respiratory or skin sensitization
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Diethanolamine	111-42-2	0.1 - 1

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Aniline (CAS 62-53-3)
Diethanolamine (CAS 111-42-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Cyclohexylamine (CAS 108-91-8)

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations**California Proposition 65**

WARNING: WARNING: This product can expose you to chemicals including Diethanolamine, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Aniline (CAS 62-53-3) Listed: January 1, 1990
Diethanolamine (CAS 111-42-2) Listed: June 22, 2012

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Oct-21-2014
Revision date Mar-01-2021
Version # 5.3
NFPA ratings Health: 3
Flammability: 3
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
ACGIH: American Conference of Governmental Industrial Hygienists
NOEL: No Observed Effect Level
STEL: Short Term Exposure Limit
LC50: Lethal Concentration, 50%
TWA: Time Weighted Average
BOD: Biochemical Oxygen Demand
COD: Chemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
LD50: Lethal Dose, 50%

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

CORRSHIELD* NT4201

1. Identification

Product identifier	CORRSHIELD NT4201
Other means of identification	None.
Recommended use	Water-based corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. Immediately call a poison center/doctor. Absorb spillage to prevent material damage. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wash contaminated clothing before reuse.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium nitrite	7632-00-0	20 - 40
Sodium hydroxide	1310-73-2	1 - 2.5

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a physician or poison control center immediately.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Not available.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store away from acids. Do not store in aluminum containers. Store in corrosive resistant container with a resistant inner liner. Store locked up. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Liquid

Physical state

Liquid.

Form

Liquid.

Color

Colorless to yellow

Odor

Mild

Odor threshold

Not available.

pH (concentrated product)

13.1

Melting point/freezing point

1 °F (-17 °C)

Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not available.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.23
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	14 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	12 (5% SOL.)
Pour point	6 °F (-14 °C)
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents. May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Avoid contact with strong acids. Keep away from heat, sparks and open flame. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not mix with other chemicals.
Incompatible materials	Strong acids. Metals. Avoid all contact with reducing agents, oils, greases, organics and acids. Oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire. Oxides of nitrogen evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Mists/aerosols may cause irritation to upper respiratory tract. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed. May cause gastrointestinal irritation with possible nausea, vomiting, diarrhea, incoordination, mental confusion, dizziness and lethargy.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
CORRSHIELD NT4201		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	593 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg
Sodium nitrite (CAS 7632-00-0)		
Acute		
Oral		
LD50	Rat	180 mg/kg

Skin corrosion/irritation Causes skin burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium nitrite (CAS 7632-00-0) 2A Probably carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard. Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product	Species		Test Results	
Aquatic	Crustacea	LC50	Daphnia magna	648 mg/L, 48 hour (pH adjusted)
		NOEL	Daphnia magna	125 mg/L, 48 hour (pH adjusted)
	Fish	LC50	Fathead Minnow	840 mg/L, 96 hour (pH adjusted)
		NOEL	Fathead Minnow	500 mg/L, 96 hour (pH adjusted)

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

	No data is available on the degradability of any ingredients in the mixture.
- COD (mgO ₂ /g)	77,2
- TOC (mg C/g)	3,5
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE, SODIUM NITRITE), RQ(SODIUM NITRITE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide; Sodium nitrite)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide; Sodium nitrite), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

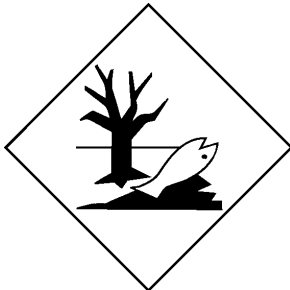
DOT



IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)

Listed.

Sodium nitrite (CAS 7632-00-0)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sodium nitrite	7632-00-0	20 - 40

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA)
Section 112(r) (40 CFR 68.130)

Hazardous substance

Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 141186
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Nov-17-2014

Revision date Jun-17-2022

Version # 1.1

NFPA ratings
Health: 3
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).
* Trademark of SUEZ. May be registered in one or more countries.	



SAFETY DATA SHEET

SPECTRUS* NX1102

1. Identification

Product identifier	SPECTRUS NX1102
Other means of identification	None.
Recommended use	Solvent-based microbial control agent.
Recommended restrictions	None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
2,2-dibromo-3-nitrilopropionamide	10222-01-2	20 - 40

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Carbon dioxide, dry chemicals, foam, water spray (fog).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Neutralize the spilled material before disposal. Neutralize with approximately 17.2 grams sodium bisulfite or 15.7 grams sodium metabisulfite for every 100 grams biocide product.

Never return spills to original containers for re-use.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage**Precautions for safe handling**

Observe good industrial hygiene practices. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Use care in handling/storage. Do not taste or swallow. Do not mix with alkaline material. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection**Biological limit values**

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection**

USERS OF A PESTICIDE PRODUCT SHOULD REFER TO THE PRODUCT LABEL FOR PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS. Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult the product label for respirator use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Appearance**

Liquid

Physical state

Liquid.

Form

Not available.

Color

Yellow to amber

Odor

Slight

Odor threshold

Not available.

pH (concentrated product)

1.9 Neat

Melting point/freezing point

-0.04 °F (-18 °C)

Initial boiling point and boiling range

Not available.

Flash point

Not available.

Evaporation rate

Slower than Ether

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.1 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1
Relative density	1.27
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	64 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	3.3 (5% Solution)
Pour point	5 °F (-15 °C)
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	Carbon dioxide, bromine, cyanogen bromide, dibromoacetonitrile

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed. May cause an allergic skin reaction.

Product	Species	Test Results
SPECTRUS NX1102		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)

Product	Species	Test Results
Inhalation		
LC50	Rat	1.3 mg/l, 4 hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	510 mg/kg (Calculated according to GHS additivity formula)
Components	Species	Test Results

2,2-dibromo-3-nitrilopropionamide (CAS 10222-01-2)

Acute

Dermal

LD50 Rabbit > 2000 mg/kg

Inhalation

LC50 Rat 0.32 mg/l, 4 Hour

Oral

LD50 Rat 206 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
Aquatic		
Algae	ErC50	Algae 1.5 mg/L, 72 hours
Crustacea	EC50	Daphnia magna 0.65 mg/L, 21 days (Reproduction EC50)
	LC50	Daphnia magna 3.3 mg/L, 48 hours
		1.3 mg/L, 21 days
		Mysid Shrimp 0.72 mg/L, 48 hours (Data given as toxicity of active component.)
	LOEC	Daphnia magna 0.6 mg/L, 21 days (Reproduction LOEC)
	NOEL	Daphnia magna 2.15 mg/L, 48 hours
		0.35 mg/L, 21 days (Reproduction NOEL)

Product		Species	Test Results
Fish	LC50	Bluegill Sunfish	6.5 mg/L, 96 hours
		Fathead Minnow	8.7 mg/L, 96 hours
		Rainbow Trout	2.3 mg/L, 96 hours
		Sheepshead Minnow	7 mg/L, 96 hours
	NOEL	Fathead Minnow	3.1 mg/L, 96 hours
		Rainbow Trout	1.8 mg/L, 96 hours
Other	LC50	Marine Copepod (<i>Acartia tonsa</i> or other)	1.78 mg/L, 48 hours

Persistence and degradability	Readily biodegradable. 78 % degradation in 28 days CO2 Evolution (Modified Sturm Test) (OECD 301B) (Refers to active component: 2,2-dibromo-3-nitrilopropionamide) Readily biodegradable. 78 % degradation in 28 days CO2 Evolution (Modified Sturm Test) (OECD 301B) (Refers to active component: 2,2-dibromo-3-nitrilopropionamide)		
- COD (mgO2/g)	959		
- TOC (mg C/g)	732		
- CO2 evolution (modified Sturm test)	78		

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
2,2-dibromo-3-nitrilopropionamide	0.79
Bioconcentration factor (BCF)	
2,2-dibromo-3-nitrilopropionamide	13
	Species: Fish

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of in approved pesticide facility or according to label instructions. Incinerate the material under controlled conditions in an approved incinerator.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Not available.
ERG number	153
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN3265

UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	153
Special precautions for user	Not available.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE)), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Not available.

DOT



IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes**Classified hazard categories** Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization**SARA 313 (TRI reporting)**

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

FIFRA registration number 3876-95**TSCA** This is an EPA registered biocide and is exempt from TSCA inventory requirements.**Food and drug administration** The ingredients in this product are approved by FDA under 21 CFR 176.300.**NSF Registered and/or meets** Registration No. – 140725**USDA (according to 1998 guidelines):** Category Code(s):
G7 Boiler, steam line treatment products – nonfood contact**Other federal regulations****Hazard statement** This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:DANGER
Corrosive
Causes irreversible eye damage
Harmful if inhaled, swallowed, or absorbed through the skin
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals
This pesticide is toxic to fish and aquatic organisms

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Oct-17-2014

Revision date Jun-15-2022

Version # 6.0

NFPA ratings Health: 3
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
ACGIH: American Conference of Governmental Industrial Hygienists
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

SPECTRUS* NX1106

1. Identification

Product identifier SPECTRUS NX1106
Other means of identification None.
Recommended use Water-based microbial control agent.
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
 4636 Somerton Road
 Treviso, PA 19053
 T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 1
 Serious eye damage/eye irritation Category 1
 Sensitization, skin Category 1
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container to an approved facility.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Magnesium nitrate	10377-60-3	1 - 2.5
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	1 - 2.5

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Rinse immediately with plenty of water for at least 20 minutes. Remove contact lenses, if present and easy to do. Keep eyelids apart. Continue rinsing. Call a physician or poison control center immediately.

Ingestion If ingestion of a large amount does occur, call a poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed. Corrosive material. Possible mucosal damage may contraindicate the use of gastric lavage. It may not be advisable to induce vomiting.

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Corrosive liquid.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up	Absorb the spill with spill pillows or inert solids such as clay or vermiculite. Transfer contaminated materials to suitable containers for disposal. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient. Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer in accordance with local procedures, permits and regulations. DO NOT add deactivation solution to the waste pail to deactivate the adsorbed material.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling	Avoid all contact with reducing agents, oils, greases, organics and acids. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store upright in original vented container. Product evolves carbon dioxide gas slowly. Store samples in plastic bottles only. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Color	Yellow to blue-green
Physical state	Liquid
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	3
pH in aqueous solution	4 (5% SOL.)
Melting point/freezing point	28 °F (-2 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg / 2.4 kPa
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.03
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	8 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	33 °F (1 °C)
Specific gravity	1.033
VOC	0 % (Calculated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. None under normal conditions.
Incompatible materials	Strong oxidizing agents. Reducing agents. Amines. mercaptans
Hazardous decomposition products	Oxides of carbon, nitrogen, and sulphur evolved in fire. Hydrogen chloride.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity	Causes severe skin burns and eye damage. May cause respiratory irritation. May cause an allergic skin reaction.

Product	Species	Test Results
SPECTRUS NX1106 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg

Product	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	4468 mg/kg
Components	Species	Test Results
Magnesium nitrate (CAS 10377-60-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	5400 mg/kg
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (CAS 55965-84-9)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	90 mg/kg
<i>Inhalation</i>		
LC50	Rat	0.33 mg/l, 4 Hour
<i>Oral</i>		
LD50	Rat	67 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
SPECTRUS NX1106 (CAS Mixture)		
LC50	Bluegill Sunfish	12.1 mg/L, Static Acute Bioassay, 96 hour
	Fathead Minnow	6.6 mg/L, Flow-Thru Bioassay, 96 hour
	Sheepshead Minnow	20 mg/L, Static Acute Bioassay, 96 hour
LOEC	Fathead Minnow	4 mg/L, Early Life Stage Test, 36 day
NOEL	Bluegill Sunfish	6.5 mg/L, Static Acute Bioassay, 96 hour

Product		Species	Test Results	
Aquatic		Fathead Minnow	2.5 mg/L, Flow-Thru Bioassay, 96 hour	
			1.3 mg/L, Early Life Stage Test, 36 day	
		Sheepshead Minnow	12 mg/L, Static Acute Bioassay, 96 hour	
	Crustacea	10% Mortality	Daphnia magna	0.6 mg/L, Flow-Thru Bioassay, 48 hour
		LC50	Daphnia magna	2.9 mg/L, Flow-Thru Bioassay, 48 hour
	Fish	LC50	Rainbow Trout	8.7 mg/L, Static Acute Bioassay, 96 hour
				4.6 mg/L, Chronic Bioassay, 14 day
		NOEL	Rainbow Trout	6.5 mg/L, Static Acute Bioassay, 96 hour
			3.3 mg/L, Chronic Bioassay, 14 day	

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one 0.49

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO₂/g) 17 (calculated data)
- BOD 5 (mgO₂/g) 0 (calculated data)
- BOD 28 (mgO₂/g) 0 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 0 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days) 0 (calculated data)
- TOC (mg C/g) 6 (calculated data)

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose of in approved pesticide facility or according to label instructions.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company. D002= Corrosive

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN3265
UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Special precautions for user Not available.
ERG number 153

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes
ERG Code	153
Special precautions for user	Not available.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Not available.

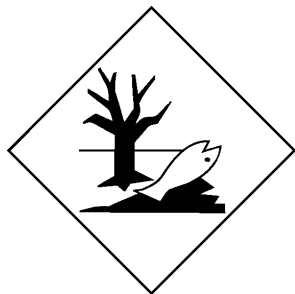
DOT



IATA; IMDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Classified hazard categories Yes
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Magnesium nitrate	10377-60-3	1 - 2.5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)

Hazardous substance

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

FIFRA registration number 3876-143

TSCA This is an EPA registered biocide and is exempt from TSCA inventory requirements.

FIFRA hazard statement This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
Corrosive
Causes irreversible eye damage and skin burns
May be fatal if absorbed through skin
Harmful if swallowed
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals
This chemical is toxic to terrestrial and aquatic plants, fish and aquatic invertebrates

Food and drug administration The ingredients in this product are approved by FDA under 21 CFR 176.300.

**NSF Registered and/or meets
USDA (according to 1998
guidelines):**

Registration No. – 144533
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Dec-12-2014

Revision date Jan-25-2019

Version # 4.0

NFPA ratings Health: 3
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References: No data available

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Revision information Product and Company Identification: Commercial Names
Composition / Information on Ingredients: Disclosure Overrides
Composition/information on ingredients: Composition comments
Exposure controls/personal protection: Appropriate engineering controls
Physical & Chemical Properties: Multiple Properties
Transport Information: Agency Name, Packaging Type, and Transport Mode Selection
Regulatory information: California Prop 65
HazReg Data: Europe - EU
GHS: Classification

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

CORTROL* OS7785

1. Identification

Product identifier CORTROL OS7785
Other means of identification None.
Recommended use Water based dissolved oxygen scavenger/ metal passivator.
Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
 4636 Somerton Road
 Trevoze, PA 19053
 T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Serious eye damage/eye irritation Category 1
 Sensitization, skin Category 1
 Germ cell mutagenicity Category 2
 Carcinogenicity Category 2
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing genetic defects. Suspected of causing cancer.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response If on skin: Wash with plenty of water/. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor/. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container to approved local facility.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Hydroquinone	123-31-9	2.5 - 10

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed Dermatitis. Rash. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause an allergic skin reaction.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store containers closed when not in use. Store in accordance with local/regional/national/international regulation. Minimise exposure to light.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydroquinone (CAS 123-31-9)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydroquinone (CAS 123-31-9)	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydroquinone (CAS 123-31-9)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Splash proof chemical goggles. Face shield.

Skin protection

Hand protection

Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Color

Brown to light yellow

Physical state

Liquid

Odor

Slight

Odor threshold

Not available.

pH (concentrated product)

7.5

pH in aqueous solution

7.6 (5% SOL.)

Melting point/freezing point

32 °F (0 °C)

Initial boiling point and boiling range

212 °F (100 °C)

Flash point	> 212 °F (> 100 °C) SETA(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	7 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	37 °F (3 °C)
Specific gravity	1.002
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Protect from freezing.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction. Prolonged or repeated contact may cause irritation.
Eye contact	Causes serious eye damage.
Ingestion	May cause gastrointestinal irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Dermatitis. Rash. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause an allergic skin reaction.
Information on toxicological effects	
Acute toxicity	May cause respiratory irritation. May cause an allergic skin reaction.

Product	Species	Test Results
CORTROL OS7785 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Hydroquinone (CAS 123-31-9)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	367 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

ACGIH sensitization

HYDROQUINONE (CAS 123-31-9)

Dermal sensitization

Respiratory sensitization Not available.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydroquinone (CAS 123-31-9)

3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be harmful if swallowed and enters airways. Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
CORTROL OS7785 (CAS Mixture)		
5% Mortality	Mysid Shrimp	3.7 mg/L, Static Renewal Bioassay, 48 hour
LC50	Fathead Minnow	4.2 mg/L, Static Renewal Bioassay, 96 hour
	Mysid Shrimp	15 mg/L, Static Renewal Bioassay, 48 hour

Product		Species	Test Results
Aquatic	NOEL	Sheepshead Minnow	5.5 mg/L, Static Renewal Bioassay, 96 hour
		Fathead Minnow	1.5 mg/L, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	3.7 mg/L, Static Renewal Bioassay, 96 hour
	LC50	Daphnia magna	4.2 mg/L, Static Renewal Bioassay, 48 hour
		Daphnia magna	1.5 mg/L, Static Renewal Bioassay, 48 hour
	LC50	Rainbow Trout	2.4 mg/L, Static Acute Bioassay, 96 hour
Bioaccumulative potential		No data available.	
Partition coefficient n-octanol / water (log Kow)			
Hydroquinone		0.59	
Mobility in soil		No data available.	
Other adverse effects		No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	
Environmental fate		The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Persistence and degradability		No data is available on the degradability of this product.	
- COD (mgO2/g)		83 (calculated data)	
- BOD 5 (mgO2/g)		43 (calculated data)	
- BOD 28 (mgO2/g)		43 (calculated data)	
- Closed Bottle Test (% Degradation in 28 days)		25 (calculated data)	
- Zahn-Wellens Test (% Degradation in 28 days)		66 (calculated data)	
- TOC (mg C/g)		26 (calculated data)	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (HYDROQUINONE (1,4-BENZENEDIOL)), RQ(HYDROQUINONE (1,4-BENZENEDIOL), SODIUM HYDROXIDE)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	171
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.	

IATA

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (HYDROQUINONE (1,4-BENZENEDIOL))
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	171
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

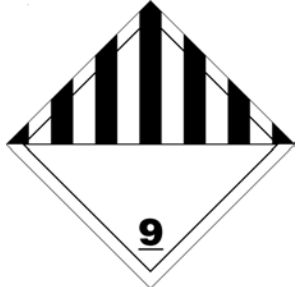
IMDG

UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYDROQUINONE (1,4-BENZENEDIOL)), RQ(HYDROQUINONE (1,4-BENZENEDIOL), SODIUM HYDROXIDE), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

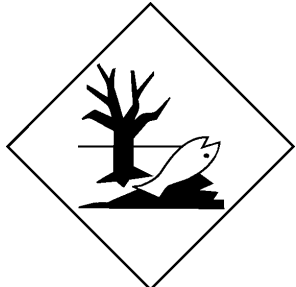
DOT



IATA; IMDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Hydroquinone (CAS 123-31-9)

Listed.

SARA 304 Emergency release notification

Hydroquinone (CAS 123-31-9)

100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes

Delayed Hazard - Yes

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Hydroquinone	123-31-9	100		500	10000

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Hydroquinone	123-31-9	2.5 - 10

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Hydroquinone (CAS 123-31-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration

All ingredients in this product are authorized in 21 CFR176.170 for use in boilers where the steam will be used for manufacturing paper or paperboard.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

US - Massachusetts RTK - Substance List

Hydroquinone (CAS 123-31-9)

US - Pennsylvania RTK - Hazardous Substances

Hydroquinone (CAS 123-31-9) Listed.

US - Rhode Island RTK

Hydroquinone (CAS 123-31-9)

US. New Jersey Worker and Community Right-to-Know Act

Hydroquinone (CAS 123-31-9) Listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Hydroquinone (CAS 123-31-9) Hazardous substance

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. Other information, including date of preparation or last revision**Issue date** Dec-05-2014**Revision date** Dec-16-2017**Version #** 1.1

List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
NFPA: National Fire Protection Association
ACGIH: American Conference of Governmental Industrial Hygienists
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References: No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.



SAFETY DATA SHEET

KLARAID* PC1192

1. Identification

Product identifier	KLARAID PC1192
Other means of identification	None.
Recommended use	Coagulant
Recommended restrictions	Industrial use only.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.

Hazard statement	The mixture does not meet the criteria for classification. The material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard's (29CFR 1910.1200) implementation of the Globally Harmonized System (GHS), i.e., material is not a dangerous substance or mixture requiring GHS classification.

Precautionary statement

Prevention	Wash thoroughly after handling.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information	None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

Composition comments	Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Move to fresh air. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
Skin contact	Do not peel polymer from the skin. Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Oxides of carbon and nitrogen evolved in fire. Hydrogen chloride gas (HCl).
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices. See Section 8 of the SDS for Personal Protective Equipment.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate ventilation.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Yellow
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	6.3 Neat
Melting point/freezing point	30 °F (-1 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not Applicable
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.03
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	250 mPa.s
Viscosity temperature	75 °F (24 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	6.2 (5% Solution)
Pour point	35 °F (2 °C)
VOC	0 % ASTM 3960-93

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire. Hydrogen chloride gas (HCl).

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dusts, vapours, mists or aerosols may cause irritation to upper respiratory tract.
Skin contact	Prolonged or repeated contact may cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not known.

Product	Species	Test Results
KLARAID PC1192		
<u>Acute</u>		
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.

Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	Not classified.

Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not classified.

Specific target organ toxicity - single exposure	Not classified.

Specific target organ toxicity - repeated exposure	Not classified.

Aspiration hazard	Not classified.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Crustacea	LC50	Ceriodaphnia	9.3 mg/l, 48 hour (With Humic Acid)
		Daphnia magna	32 mg/l, 48 hour (With Humic Acid)
		Mysid Shrimp	628.5 mg/l, 48 hour
	LOEL	Ceriodaphnia	2 mg/l, 7 day

Product		Species	Test Results
	NOEL	Ceriodaphnia	6.25 mg/l, 48 hour (With Humic Acid) 1 mg/l, 7 day
		Daphnia magna	15.6 mg/l, 48 hour (With Humic Acid)
		Mysid Shrimp	125 mg/l, 48 hour
Fish	LC50	Fathead Minnow	3.8 mg/l, 96 hour (With Humic Acid)
		Rainbow Trout	14.1 mg/l, 96 hour (With Humic Acid)
	LOEL	Fathead Minnow	2 mg/l, 7 day
	NOEL	Fathead Minnow	2.5 mg/l, 96 hour (With Humic Acid) 1 mg/l, 7 day
		Rainbow Trout	10 mg/l, 96 hour (With Humic Acid)
		Sheepshead Minnow	2000 mg/l, 96 hour

Persistence and degradability

- COD (mgO ₂ /g)	270
- BOD 5 (mgO ₂ /g)	0
- BOD 28 (mgO ₂ /g)	7
- Closed Bottle Test (% Degradation in 28 days)	3
- Zahn-Wellens Test (% Degradation in 28 days)	6
- TOC (mg C/g)	90

Bioaccumulative potential Not bioaccumulating

Partition coefficient n-octanol / water (log K_{ow})
< 0

Bioconcentration factor (BCF)
0

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated "active".

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration 21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date Oct-20-2014

Revision date Nov-15-2022

Version # 4.1

NFPA ratings

Health: 0
Flammability: 0
Instability: 0

NFPA ratings**List of abbreviations**

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
NFPA: National Fire Protection Association
DOT: Department of Transportation (49 CFR 172.101).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer.
OSHA: Occupational Safety & Health Administration.
WHMIS: Workplace Hazardous Materials Information System.
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References:

No data available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Prepared by

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identifier: DIXICHLOR MAX
Synonyms: Bleach, Sodium Hypochlorite, Sodium Hypochlorite 12.5%
Intended use: Swimming pool chlorinator, Hard surface cleaner, Water treatment chemical, Biocides
Uses Advised Against: None identified. This is a pesticide product, do not use in a pesticide application that is not included on the label.
Company Identification PVS DX, Inc
 1919 Jacintoport Blvd.
 Houston, TX 77015
Emergency
CHEMTREC (USA) (800) 424-9300
24 hour Emergency Telephone No. (281) 457-4888
 www.dxgroup.com

2. Hazard identification of the product

Physical hazards	Corrosive to metals	Category 1
Health hazards	Causes severe skin burns and eye damage Serious eye damage Specific target organ toxicity, single exposure	Category 1A Category 1 Category 3 respiratory tract irritation
Environmental hazards	Very toxic to aquatic life Toxic to aquatic life with long lasting effects	Category 1 Acute Category 2 Chronic

Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Signal Word	Danger
Hazard Statements	CORROSIVE. Causes serious eye damage. Causes severe skin burns. Causes damage to respiratory system when inhaled. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. May be corrosive to metals.
Precautionary Statements	
Prevention	Do not breathe mist / vapors / spray. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves / eye protection / face protection. Keep only in original container. Use in well ventilated area. Store in corrosive resistant container with a resistant inner liner.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Remove / Take off immediately all contaminated clothing. Wash with plenty of soap and water. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor / physician if you feel unwell. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Immediately call a POISON CENTER or doctor / physician. Wash contaminated clothing before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight.
Disposal	Dispose of contents / container in accordance with local / national regulations.

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3. Composition/information on ingredients

Synonyms: Bleach, Sodium Hypochlorite, Sodium Hypochlorite 12.5%

Ingredient	CAS Number	Percent (%)	GHS Classification	NOTES
Sodium hypochlorite.	7681-52-9	12.5 - 15.6	Skin Corr. 1B; Aquatic Acute 1; Eye Dam. 1 .	[1]
Sodium chloride	7647-14-5	9 - 10	Not classified	[1]
Sodium hydroxide	1310-73-2	0.5 - 2	Skin Corr. 1A;H314 Met. Corr. 1;H290	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

*The full texts of the phrases are shown in Section 16.

4. First Aid Measures

General	Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Inhalation	Move victim to fresh air. Call emergency medical care. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Eyes	Irrigate copiously with clean fresh water for at least 10 minutes, holding the eyelids apart. Get medical attention. Remove contact lenses if present and easy to do - continue rinsing.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. Do NOT use solvents or thinners.
Ingestion	If accidentally swallowed obtain immediate medical attention. Rinse mouth. Keep at rest. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into lungs.
Most important symptoms and effects, both acute and delayed	
Overview	Corrosive effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital
General information	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Recommended Extinguishing media	Alcohol resistant foam, CO ² , dry chemical powder, water spray. Do not use water jet.
Special hazards arising from the substance or mixture	Hydrogen chloride and chlorine. Chlorine gas rate of decomposition increases with the concentration with temperatures above 85 °F (30 °C). Do not breathe mist / vapors / spray.
Advice for fire-fighters	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. ERG Guide No. 154

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Local authorities should be contacted if significant spill cannot be contained.
Environmental precautions	Do not allow spills to enter drains or watercourses.
Methods and material for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.

7. Handling and storage

Precautions for safe handling	Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Chemical attack increases with solution strength. Use with adequate ventilation. Observe good industrial hygiene practices. Do not apply heat or direct sunlight. Temperature and product concentration affect product quality and decomposition rates.
Conditions for safe storage, including any incompatibilities	Handle containers carefully to prevent damage and spillage. Keep container tightly closed. Store in a cool and well-ventilated place. Store in a corrosive resistant container. Consult container manufacturer for additional guidance. Store away from and do not mix with incompatible materials such as acids, ammonia, urea, oxidizers, organics and metals such as nickel, copper, tin, aluminum and iron.

8. Exposure controls and personal protection

Exposure Control Parameters

CAS No.	Ingestion	Source	Value
1310-73-2	Sodium hydroxide	OSHA	TWA 2 mg/m3
		ACGIH	Ceiling: 2 mg/m3
		NIOSH	C 2 mg/m3
7647-14-5	Sodium chloride	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
7681-52-9	Sodium hypochlorite.	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

Individual protection measures, such as personal protective equipment

Respiratory	Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.
Eyes	Wear face shield with safety glasses with side shields and/or safety goggles.
Skin	Chemical resistant clothing such as coveralls/apron boots should be worn. Chemical Impervious gloves.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn. Eye wash and safety shower must be available when handling this product
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

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9. Physical and chemical properties

Appearance	Clear, pale yellow, or greenish Liquid
Odor	Pungent, chlorine odor
Odor threshold	0.9 mg/m ³
pH	12 - 13
Melting point / freezing point	-3 °F (-19.4 °C)
Initial boiling point and boiling range	Decomposes above 230 °F (110 °C)
Flash Point	Nonflammable
Evaporation rate (Ether = 1)	Not Established
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (mmHg)	17.5 (@ 20° C)
Vapor Density	Not Established
Specific Gravity	1.20 - 1.40
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature (°C)	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
VOC %	Not Measured
Other information	No other relevant information.

10. Stability and reactivity

Reactivity	Hazardous Polymerization will not occur.
Chemical stability	Stable under normal circumstances.
Possibility of hazardous reactions	No data available.
Conditions to avoid	Contact with incompatible materials. Acid contact will produce chlorine gas.
Incompatible materials	Any acidic material, ammonia, urea, oxidizers, organics and metals such as nickel, copper, tin, aluminum and iron.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Sodium hypochlorite (7681-52-9)	5,000.00, Rat - Category: 5	10,000.00, Rabbit - Category: NA	10.50, Rat - Category: 4	No data available	No data available
Sodium chloride (7647-14-5)	1,350.00, Rabbit - Category: 4	100.00, Rat - Category: 2	40.00, Mouse - Category: NA	10,500.00, Rat - Category: NA	No data available
Sodium hydroxide (1310-73-2)	6,600.00, Mouse - Category: NA	1,350.00, Rabbit - Category: 4	600.00, Mouse - Category: NA	No data available	No data available

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11. Toxicological information Acute toxicity (cont.)

Item	Hazard
Acute Toxicity (mouth)	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.
Acute Toxicity (skin)	Harmful in contact with skin.
Acute Toxicity (inhalation)	Vapors and spray mist may irritate throat and respiratory system and cause coughing.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Eye damage/irritation	Causes serious eye damage.
Sensitization (respiratory)	No data available.
Sensitization (skin)	No data available.
Germ toxicity	No data available.
Carcinogenicity	Not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.
Reproductive Toxicity	No data available.
Specific target organ systemic toxicity (single exposure)	May cause respiratory irritation.
Specific target organ systemic Toxicity (repeated exposure)	Not Applicable.
Aspiration hazard	Not classified; however droplets of product may be aspirated into lungs, through ingestion or vomiting and may cause serious chemical pneumonia.

12. Ecological information

Toxicity: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Sodium hypochlorite (7681-52-9)	0.08, Pimephales promelas	0.032, Daphnia magna	0.40 (72 hr), Dunaliella primolecta
Sodium chloride (7647-14-5)	1,100.00, Freshwater Fish	3,310.00, Daphnia magna	Not Available
Sodium hydroxide (1310-73-2)	196.00, Poecilia reticulata	40.38, Ceriodaphnia dubia	Not Available

Persistence and degradability:	There is no data available on the preparation itself.
Bioaccumulative potential:	Not Measured
Mobility in soil:	No data available.
Results of PBT and vPvB assessment:	This product contains no PBT/vPvB chemicals.
Other adverse effects:	No other effects are expected.

13. Disposal considerations

Waste treatment methods:	Do not allow into drains or water courses. Wastes and emptied containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act. Using information provided in this data sheet, advice should be obtained from the Waste Regulation Authority, whether the special waste regulations apply.
Waste from material:	The waste determination should be made in discussion between the user and the waste disposal company.
Container Management:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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14. Transport information

UN number:	UN1791
UN proper shipping name:	Hypochlorite solutions
Transport hazard class(es)	
DOT (Domestic Surface Transportation)	
DOT Proper Shipping Name:	Hypochlorite solutions
DOT Hazard Class:	8
DOT Label:	8
UN / NA Number:	UN1791
DOT Packing Group:	III
CERCLA/DOT RQ:	100 lbs.
Environmental hazards:	IMDG Marine Pollutant: Yes (Sodium hypochlorite)
Special precautions for user:	Not Applicable

15. Regulatory information

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory.		
WHMIS Classification	D2B E		
US EPA Tier II Hazards:	Fire:	No	
	Sudden Release of Pressure:	No	
	Reactive:	No	
	Immediate (Acute):	Yes	
	Delayed (Chronic):	No	
SARA 302 Extremely Hazardous Substance:		No	
SARA 311/312 Chemicals and RQs (lbs) (>0.1%) :		100	
SARA 313 (TRI):		No	
CAA Section 112 Hazardous Air Pollutant:		No	
CAA Section 112R Risk Management Plan:		No	
State Regulations	N.J. RTK Substances (>1%) :	Listed	
	Penn RTK Substances (>1%) :	Listed	
	California Prop 65:	Not Listed	

16. Other information:

EPA Registration Number: 813-15

NSF Maximum Use Level (STD 60): Check BOL for facility Data. (37 to 84 mg/L)

H314 Causes severe skin burns and eye damage.

H290. May be corrosive to metals

Revision Information: This is the first version of this SDS.

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

THE USER IS CAUTIONED TO PERFORM HIS OWN HAZARD EVALUATION AND TO RELY ON HIS OWN DETERMINATIONS.

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : SULFURIC ACID 99%

1.2 Relevant identified uses of the substance or mixture and uses advised against

no data available

1.3 Details of the supplier of the safety data sheet

Company : Eco Services Operations Corp.
2002 Timberloch Place
Suite 300
The Woodlands, TX 77380
Phone number : (844) 812-1812

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Skin corrosion, Category 1A
Serious eye damage, Category 1
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system

H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram



Signal Word

: Danger

Hazard Statements:

H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

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Precautionary Statements:

Prevention

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P363 Wash contaminated clothing before reuse.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

Water Reactive

H402: Harmful to aquatic life.
H411: Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Substance

Not applicable, this product is a mixture.

3.2 Mixture

Hazardous Ingredients and Impurities

Chemical Name	Identification number CAS-No.	Concentration [%]
Sulfuric acid	7664-93-9	99

Non Hazardous Ingredients and Impurities

Chemical Name	Identification number CAS-No.	Concentration [%]
Water	7732-18-5	<= 1

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SECTION 4: First aid measures

4.1 Description of first-aid measures

- If inhaled : Remove victim from exposure and then have him lie down in the recovery position.
In case of shortness of breath, give oxygen.
If victim has stopped breathing:
administer CPR (cardio-pulmonary resuscitation)
Immediate medical attention is required.
- Skin contact : In case of contact, immediately flush skin with plenty of water for at least 30 minutes.
Remove all contaminated apparel under the shower.
Wash off with plenty of water.
Do not attempt to neutralize with chemical agents
Immediate medical attention is required.
- Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 30 minutes.
Immediate medical attention is required.
- Ingestion : Do NOT induce vomiting.
If victim is conscious:
Rinse mouth with water.
Do not leave the victim unattended.
Risk of product entering the lungs on vomiting after ingestion.
Lay victim on side.
Never give anything by mouth to an unconscious person.
Immediate medical attention is required.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis
Skin contact may aggravate existing skin disease

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician : All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5: Firefighting measures

- Flash point : Not applicable
- Autoignition temperature : no data available
- Flammability / Explosive limit : no data available

5.1 Extinguishing media

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Suitable extinguishing media : Dry chemical

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Not combustible.
 Strong oxidizer. Contact with other material may cause fire.
 Reacts violently with water.
 Corrosive or suffocating vapors are released.
 On combustion or on thermal decomposition (pyrolysis), releases:
 Sulfur oxides
 Sulfuric acid reacts with metals, especially when diluted with water. This reaction produces highly flammable hydrogen gas, which may explode when ignited, especially in confined spaces.

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.
 Acid-resistant protective clothing

Specific fire fighting methods : Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures : The product must only be handled by specifically trained employees.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
 Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
 Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies
 Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

6.3 Methods and materials for containment and cleaning up

Recovery : Stop leak if safe to do so.
 Dam up with sand or inert earth (do not use combustible materials).

Decontamination / cleaning : Pump or collect any free spillage into an appropriate closed container. (see Section 7: Handling and Storage)
 Exercise caution during neutralization as considerable heat may be generated
 Carefully neutralize the remainder using:
 soda ash
 Soak up with inert absorbent material.
 Scrape up.
 Keep in suitable, closed containers for disposal.

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6.4 Reference to other sections

Reference to other sections : 7. HANDLING AND STORAGE

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Technical measures : Do not breathe mist or vapors.
Avoid contact with the skin and the eyes.
When diluting, always add the product to water. Never add water to the product.
Reacts violently with:
bases.
- Hygiene measures : Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
3) Wash exposed skin promptly to remove accidental splashes or contact with material.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

- Recommended : Keep tightly closed.
Store in an area:
dry
well-ventilated
diked

Storage stability

- Storage temperature : < 104 °F (< 40 °C)
- Other data : Corrosion rates increase at elevated temperatures.

7.3 Specific end use(s)

no data available

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SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Ingredients with workplace control parameters

Ingredients	Value type	Value	Basis
Sulfuric acid	TWA	1 mg/m3	NIOSH
Sulfuric acid	TWA	0.2 mg/m3	ACGIH
	Form of exposure : Thoracic fraction Pulmonary function, Classification refers to sulfuric acid contained in strong inorganic acid mists, Suspected human carcinogen		
Sulfuric acid	TWA	1 mg/m3	OSHA Z-1
Sulfuric acid	TWA	1 mg/m3	OSHA Z-1-A
Sulfuric acid	TWA	0.2 mg/m3	SOLVAY

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Ingredients	CAS-No.	Concentration
Sulfuric acid	7664-93-9	15 milligram per cubic meter

8.2 Exposure controls

Control measures

Engineering measures : Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :

Effective exhaust ventilation system

Personal protective equipment

Respiratory protection : When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Recommended Filter type: Acidic gas/vapor type

Eye protection : Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through the use of:

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Wear protective eye glasses for protection against liquid splashes (goggles)

Skin and body protection

: Wear as appropriate:
Face-shield
Acid-resistant protective clothing
Acid resistant boots.

Hygiene measures

: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
3) Wash exposed skin promptly to remove accidental splashes or contact with material.

Protective measures

: Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Appearance	: Form : oily Physical state: liquid Color: colorless
Odor	: odorless
Odor Threshold	: no data available
pH	: 1.0 (1 % (m/v))
Boiling point/boiling range	: 563 - 626 °F (295 - 330 °C) (760 mmHg (1,013.25 hPa))
Flash point	: Not applicable
Evaporation rate (Butylacetate = 1)	: no data available
Flammability (solid, gas)	: no data available
Flammability (liquids)	: no data available
Flammability / Explosive limit	: no data available
Autoignition temperature	: no data available
Vapor pressure	: < 1 mmHg (1.33 hPa) (104 °F (40 °C))

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Vapor density	:	no data available
Density	:	Relative density : 1.84 (61 °F (16 °C))
Solubility	:	<u>Water solubility</u> : miscible
Partition coefficient: n-octanol/water	:	no data available
Thermal decomposition	:	no data available
Viscosity	:	no data available
Explosive properties	:	no data available
Oxidizing properties	:	no data available

9.2 Other information

Molecular weight	:	98.08 g/mol
Reactions with water / air	:	Reacts violently with water.

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Chemical stability	:	Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Contact with metals may evolve flammable hydrogen gas, especially in confined spaces.
Hazardous polymerization does not occur.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Materials to avoid	:	Water Strong reducing agents Halogenated compounds Bases metals Nitrogen oxides (NOx)

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10.6 Hazardous decomposition products

Decomposition products : On combustion or on thermal decomposition (pyrolysis), releases:
Sulfur oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity
Sulfuric acid

LD50 Oral : 2,140 mg/kg - Rat
Gavage
Published data

Acute inhalation toxicity
Sulfuric acid

: LC50 - 4 h (aerosol) : 0.375 mg/l - Rat , male and female
Toxicity secondary to corrosive effects at site of contact.
Published data

LC50 - 4 h (aerosol) : 0.85 mg/l - Mouse , male and female
Toxicity secondary to corrosive effects at site of contact.
Published data

(Mist) Humans
Symptoms: Potential health effects, Respiratory disorders, Symptoms may be delayed., Cough, Risk of delayed pulmonary edema.
Effects of breathing high concentration of respirable particles may include:
May cause irritation of respiratory tract.
Lung irritation
Published data

Acute dermal toxicity
Sulfuric acid

: Not classified as hazardous for acute toxicity according to GHS
Not applicable
Corrosive
internal evaluation

Acute toxicity (other routes of administration) : no data available

Skin corrosion/irritation

Skin irritation
Sulfuric acid

: Causes severe burns.
Published data

Serious eye damage/eye irritation

Eye irritation
Sulfuric acid

: Risk of serious damage to eyes.
Published data

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Respiratory or skin sensitization

Sensitization

Sulfuric acid : Local lymph node assay
 Not applicable
 Corrosive
 The product is not considered to be sensitizing by skin contact.
 internal evaluation

Mutagenicity

Genotoxicity in vitro

Sulfuric acid : Mutagenicity (Salmonella typhimurium - reverse mutation assay)
 with and without metabolic activation
 negative
 Method: OECD Test Guideline 471
 Published data

Chromosome aberration test in vitro
 Strain: Chinese hamster ovary cells
 with and without metabolic activation
 positive
 Effects observed are due to the reduced pH in the test medium.
 Published data

Product is not considered to be genotoxic

Genotoxicity in vivo : no data available

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Carcinogenicity

Carcinogenicity

Sulfuric acid

: inhalation (mist)

Animal studies

Unpublished reports

Published data

No carcinogenic effects have been observed

Note: IARC Classification: Group 1
mists from strong inorganic acids

IARC and NTP classified "occupational exposure to strong inorganic acid mists containing sulfuric acid" as a known human carcinogen. ACGIH has also classified "sulfuric acid as contained in strong inorganic acid mists" as a suspected human carcinogen. There is still a debate on the studies reviewed by these agencies. We disagree with IARC's conclusion, in that more recent studies have failed to find association between "occupational exposure to strong inorganic acid mist containing sulfuric acid." and laryngeal or lung cancer. In fact, in 2012 IARC revised their classification dropping the "containing sulfuric acid" wording. Lifetime animal studies in hamsters, rats, and guinea pigs were conducted by the EPA and NIEHS and were all negative. However, they were not formally published by the agencies and not considered by IARC or NTP.

Ingredients	CAS-No.	Rating	Basis
Strong inorganic acid mists containing sulfuric acid	7664-93-9	Group 1: Carcinogenic to humans	IARC
Strong inorganic acid mists containing sulfuric acid		Suspected human carcinogen	ACGIH
Strong inorganic acid mists containing sulfuric acid		Known to be human carcinogen	NTP
Sulfuric acid		Suspected human carcinogen	ACGIH

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

OSHA

NTP

IARC

OSHA

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Toxicity for reproduction and development

Toxicity to reproduction / fertility

Sulfuric acid : Effects on fertility
fetotoxic effect
no observed effect

Developmental Toxicity/Teratogenicity

Sulfuric acid : Rabbit
Application Route: inhalation (mist)
NOAEC teratogenicity: 19.3 mg/m3

Method: OECD Test Guideline 414
no teratogenic effects have been observed

Mouse
Application Route: inhalation (mist)
NOAEC teratogenicity: 19.3 mg/m3

Method: OECD Test Guideline 414
no teratogenic effects have been observed
Published data

STOT

STOT-single exposure

Sulfuric acid Routes of exposure: inhalation (mist)
Target Organs: Respiratory Tract
Toxicology Assessment:
May cause respiratory irritation.

STOT-repeated exposure

Sulfuric acid : Toxicology Assessment:
The substance or mixture is not classified as specific target organ toxicant, repeated exposure., internal evaluation

Sulfuric acid : inhalation (mist) 28 d - Rat
LOAEC: 0.3 mg/m3
Target Organs: Larynx
Method: OECD Test Guideline 412
Symptoms: Local irritation
Unpublished reports

inhalation (mist) 78 Weeks - Monkey
LOAEC: 0.38 mg/m3
Target Organs: Respiratory Tract
Symptoms: Local irritation, Respiratory disorders
Published data

Repeated inhalation of aerosols may cause adverse effects on health

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Experience with human exposure

Experience with human exposure : Inhalation

Sulfuric acid : Target Organs: Respiratory Tract

Target Organs: Nose

Symptoms: Burning sensations in the nose and throat.

Breathing difficulties

Dental erosion

Mist

At high concentrations:

Irritating to the respiratory system and mucous membranes.

Published data

Carcinogenicity

Sulfuric acid

: Carcinogenicity classification not possible from current data.

Teratogenicity

Sulfuric acid

: Did not show teratogenic effects in animal experiments.

Aspiration toxicity

Aspiration toxicity

Sulfuric acid

: Not applicable

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Sulfuric acid

: LC50 - 96 h : 16 - 28 mg/l - Lepomis macrochirus (Bluegill sunfish)
static test

Non neutralized product

pH 3.5 - 3.25

Harmful to fish.

Published data

Acute toxicity to daphnia and other aquatic invertebrates.

Sulfuric acid

: EC50 - 48 h : > 100 mg/l - Daphnia magna (Water flea)
static test Method: OECD Test Guideline 202

Fresh water

Neutralized product

Not harmful to aquatic invertebrates. (EC50 > 100 mg/L)

Unpublished reports

EC50 - 24 h : 29 mg/l - Daphnia magna (Water flea)

Method: ISO 6341

Non neutralized product

Harmful to aquatic invertebrates.

Published data

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Toxicity to aquatic plants
Sulfuric acid

: NOEC : 0.13 mg/l - Algae
field study
pH 5.6
Non neutralized product
Published data

ErC50 - 72 h : > 100 mg/l - Desmodesmus subspicatus (green algae)
Growth inhibition
Method: OECD Test Guideline 201
Neutralized product
Unpublished reports

Chronic toxicity to fish
Sulfuric acid

: NOEC: 0.13 mg/l - 10 Months - Salvelinus fontinalis (brown trout)
flow-through test
pH 5.6
Fresh water
Non neutralized product
Published data

Ecotoxicity assessment

Acute aquatic toxicity
Sulfuric acid

: If the product is not neutralized, it may cause adverse effects to aquatic organisms due to its acidity.
Neutralization will reduce ecotoxic effects.

Chronic aquatic toxicity
Sulfuric acid

: If the product is not neutralized, it may cause adverse effects to aquatic organisms due to its acidity.

12.2 Persistence and degradability

Biodegradability

Biodegradability
Sulfuric acid

: Not applicable, inorganic substance

Stability

Stability in water
Sulfuric acid

: Product dissociates rapidly to corresponding ions on contact with water.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
Sulfuric acid

: Not applicable, inorganic substance

Bioconcentration factor (BCF)

Sulfuric acid

: Not relevant
internal evaluation

12.4 Mobility in soil

no data available

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12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

Sulfuric acid : This substance is not considered to be persistent, bioaccumulating, and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Environment assessment

Sulfuric acid : Not classified as Dangerous for the Environment

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

Advice on Disposal : Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Waste Code : EPA:
Hazardous Waste – YES

RCRA:
D002 - Corrosive waste – (C)
D003 - Reactive waste – (R)

SECTION 14: Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT

<u>14.1 UN number</u>	UN 1830
<u>14.2 Dangerous Good Description</u>	UN 1830 SULFURIC ACID, 8, II
<u>14.3 Transport hazard class</u>	8
<u>14.4 Packing group</u>	II
Packing group	II
Label(s)	8
ERG No	137
<u>14.5 Environmental hazards</u>	NO
Marine pollutant	

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14.6 Special precautions for user

This product contains one or more ingredients identified as a hazardous substance in Appendix A of 49 CFR 172.101. The product quantity, in one package, which triggers the RQ requirements under 49 CFR for each hazardous substance is shown.

Reportable quantities	:	RQ substance: Sulfuric acid
		RQ limit for substance: 1,000 lb
		RQ limit for product: 1,053 lb

TDG

<u>14.1 UN number</u>	UN 1830
<u>14.2 Dangerous Good Description</u>	UN 1830 SULFURIC ACID, 8, II
<u>14.3 Transport hazard class</u>	8
<u>14.4 Packing group</u>	II
Packing group	II
Label(s)	8
ERG No	137
<u>14.5 Environmental hazards</u>	NO
Marine pollutant	

IMDG

<u>14.1 UN number</u>	UN 1830
<u>14.2 Dangerous Good Description</u>	UN 1830 SULPHURIC ACID, 8, II
<u>14.3 Transport hazard class</u>	8
<u>14.4 Packing group</u>	II
Packing group	II
Label(s)	8
EmS	F-A , S-B
<u>14.5 Environmental hazards</u>	NO
Marine pollutant	

14.6 Special precautions for user

For personal protection see section 8.

IATA

<u>14.1 UN number</u>	UN 1830
<u>14.2 Dangerous Good Description</u>	UN 1830 SULPHURIC ACID, 8, II

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14.3 Transport hazard class 8

14.4 Packing group

Packing group	II
Label(s):	8
Packing instruction (cargo aircraft)	855
Max net qty / pkg	30.00 L
Packing instruction (passenger aircraft)	851
Max net qty / pkg	1.00 L

14.5 Environmental hazards NO

Marine pollutant

14.6 Special precautions for user

For personal protection see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

United States TSCA Inventory	: YES (positive listing) On TSCA Inventory
Canadian Domestic Substances List (DSL)	: YES (positive listing) All components of this product are on the Canadian DSL.
Australia Inventory of Chemical Substances (AICS)	: YES (positive listing) On the inventory, or in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	: YES (positive listing) On the inventory, or in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	: YES (positive listing) On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	: YES (positive listing) On the inventory, or in compliance with the inventory

15.2 Federal Regulations

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SARA 311/312 Hazards

Fire Hazard	no
Reactivity Hazard	yes
Sudden Release of Pressure Hazard	no
Acute Health Hazard	yes
Chronic Health Hazard	no

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:
Sulfuric acid 7664-93-9 99 %

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients	CAS-No.	Threshold planning quantity	Remarks
Sulfuric acid	7664-93-9	1000 lb	

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Reportable quantity
Unlisted hazardous wastes - Characteristic of Corrosivity		100 lb
Unlisted hazardous wastes - Characteristic of Reactivity		100 lb
Sulfuric acid	7664-93-9	1000 lb

SARA 304 Reportable Quantity

Ingredients	CAS-No.	Reportable quantity
Sulfuric acid	7664-93-9	1000 lb

SARA 302 Reportable Quantity

Ingredients	CAS-No.	Reportable quantity
Sulfuric acid	7664-93-9	1000 lb

15.3 State Regulations

California Prop 65 : WARNING! This product contains a chemical known in the State of California to cause cancer.
Strong inorganic acid mists containing sulfuric acid

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information

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NFPA (National Fire Protection Association) - Classification

Health : 3 serious
 Flammability : 0 minimal
 Instability or Reactivity : 2 moderate

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health : 3 serious
 Flammability : 0 minimal
 Reactivity : 2 moderate

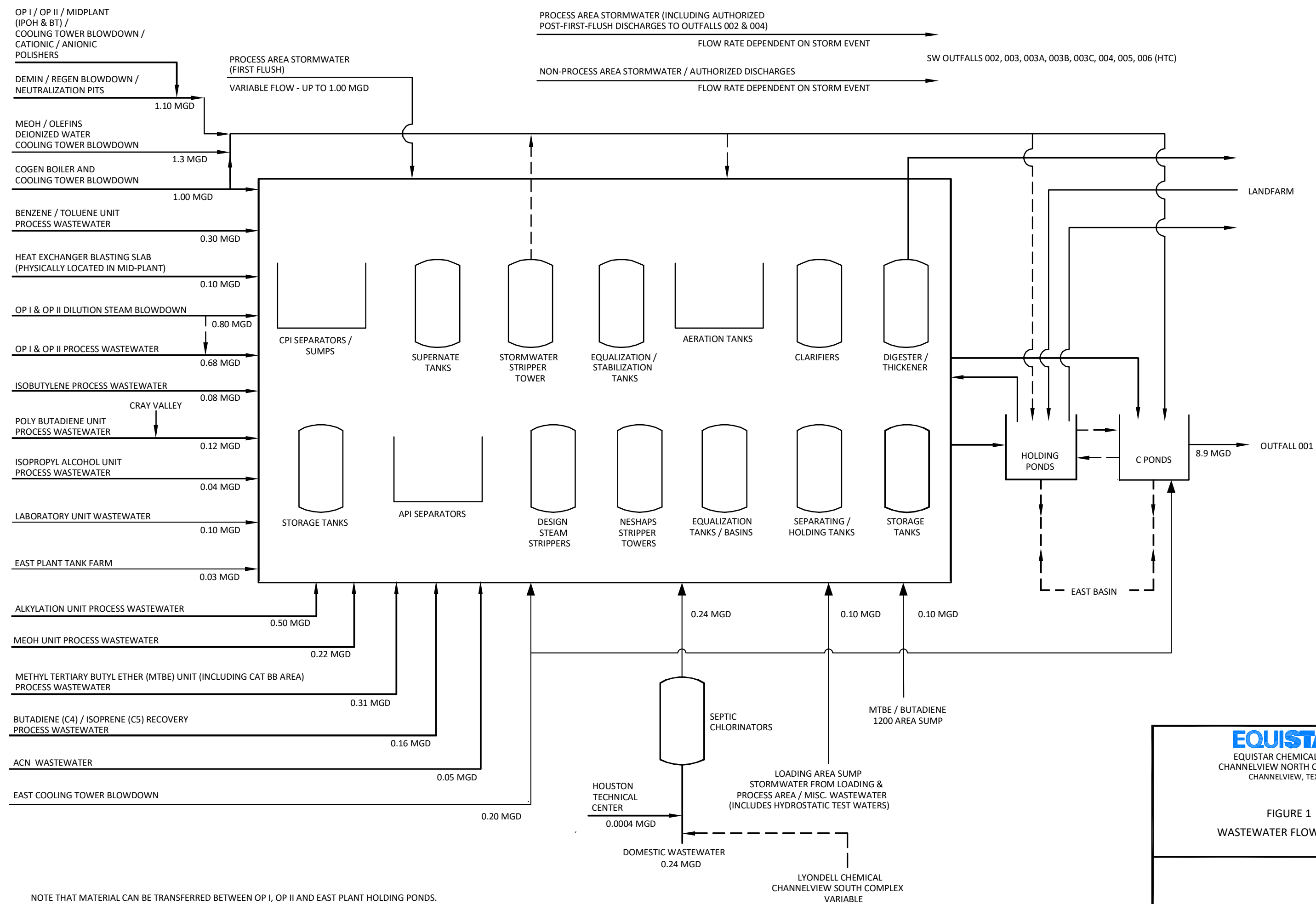
Further information

Date Previous Issue : 05/09/2016
 Further information : Product classified under the US GHS format.

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA : 8-hour, time-weighted average
 ACGIH : American Conference of Governmental Industrial Hygienists
 OSHA : Occupational Safety and Health Administration
 WHMIS : Workplace Hazardous Materials Information System
 NTP : National Toxicology Program
 IARC : International Agency for Research on Cancer
 : Solvay Acceptable Exposure Limit
 NIOSH : National Institute for Occupational Safety and Health
 NFPA : National Fire Protection Association
 HMIS : Hazardous Materials Identification System (Paint & Coating)

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in another manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.



NOTE THAT MATERIAL CAN BE TRANSFERRED BETWEEN OP I, OP II AND EAST PLANT HOLDING PONDS. ALSO, MATERIAL CAN BE TRANSFERRED BETWEEN OP I AND OP II UPSTREAM OF TREATMENT.

EQUISTAR
EQUISTAR CHEMICALS, LP
CHANNELVIEW NORTH COMPLEX
CHANNELVIEW, TEXAS

FIGURE 1
WASTEWATER FLOW BALANCE

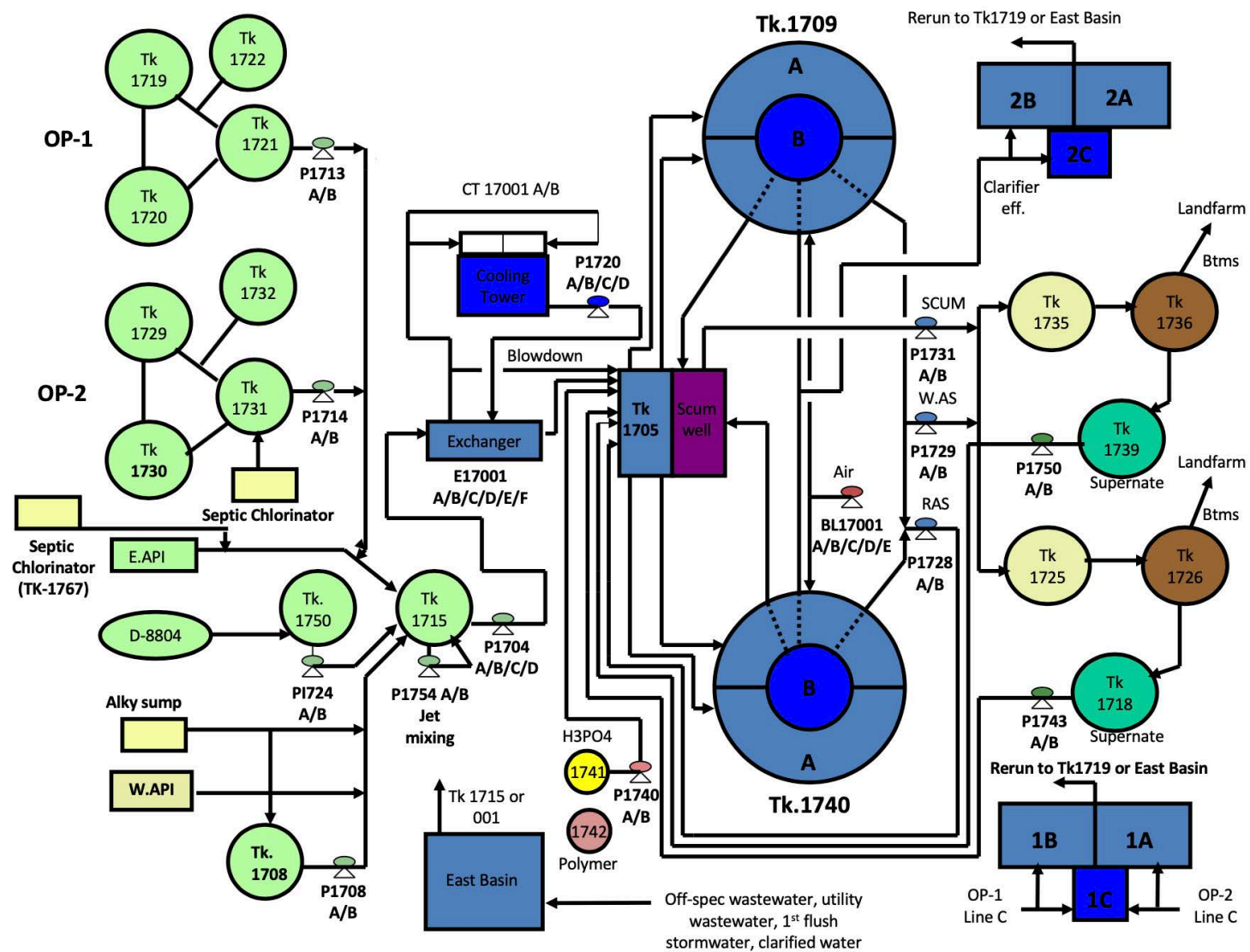
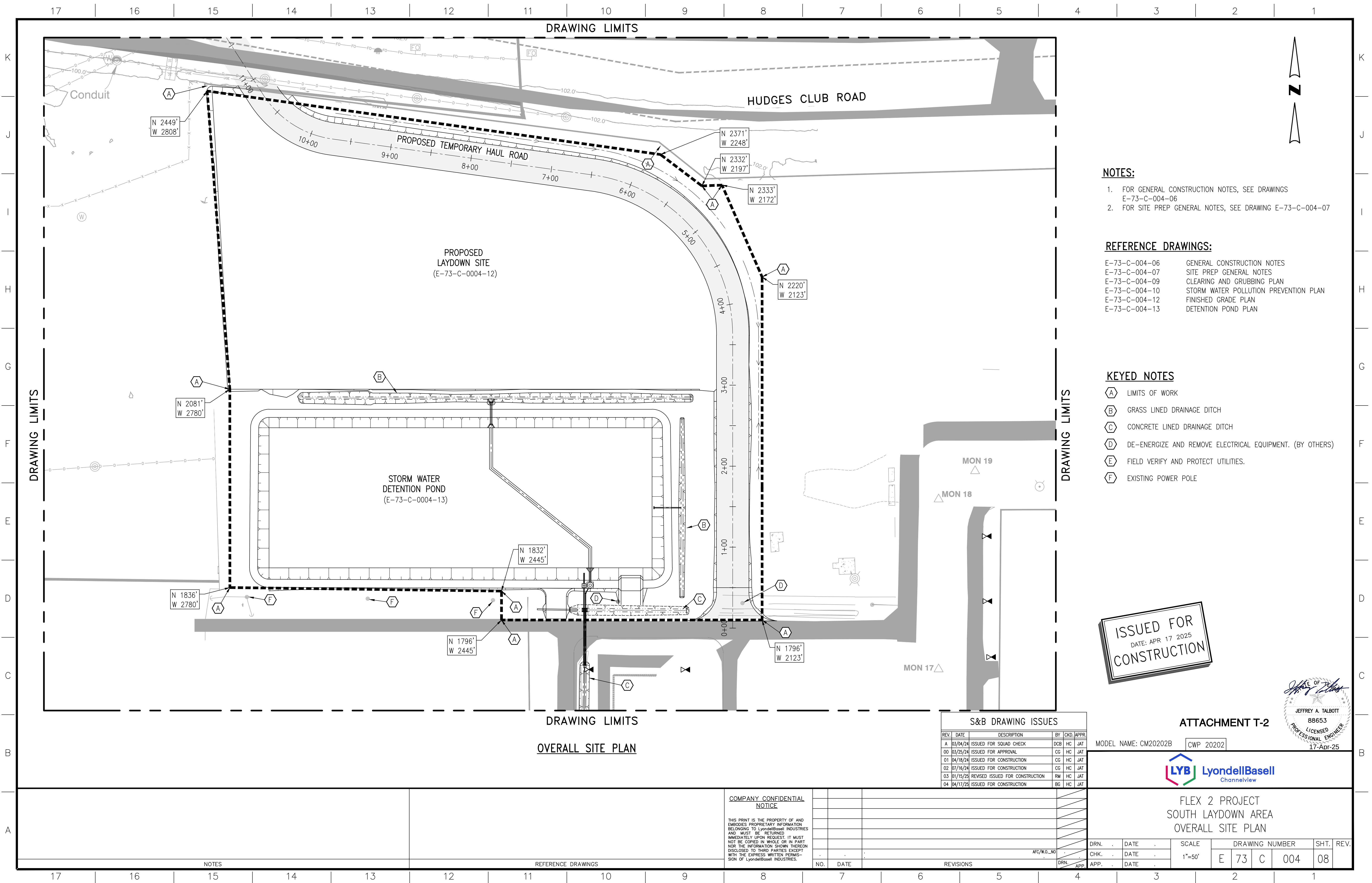
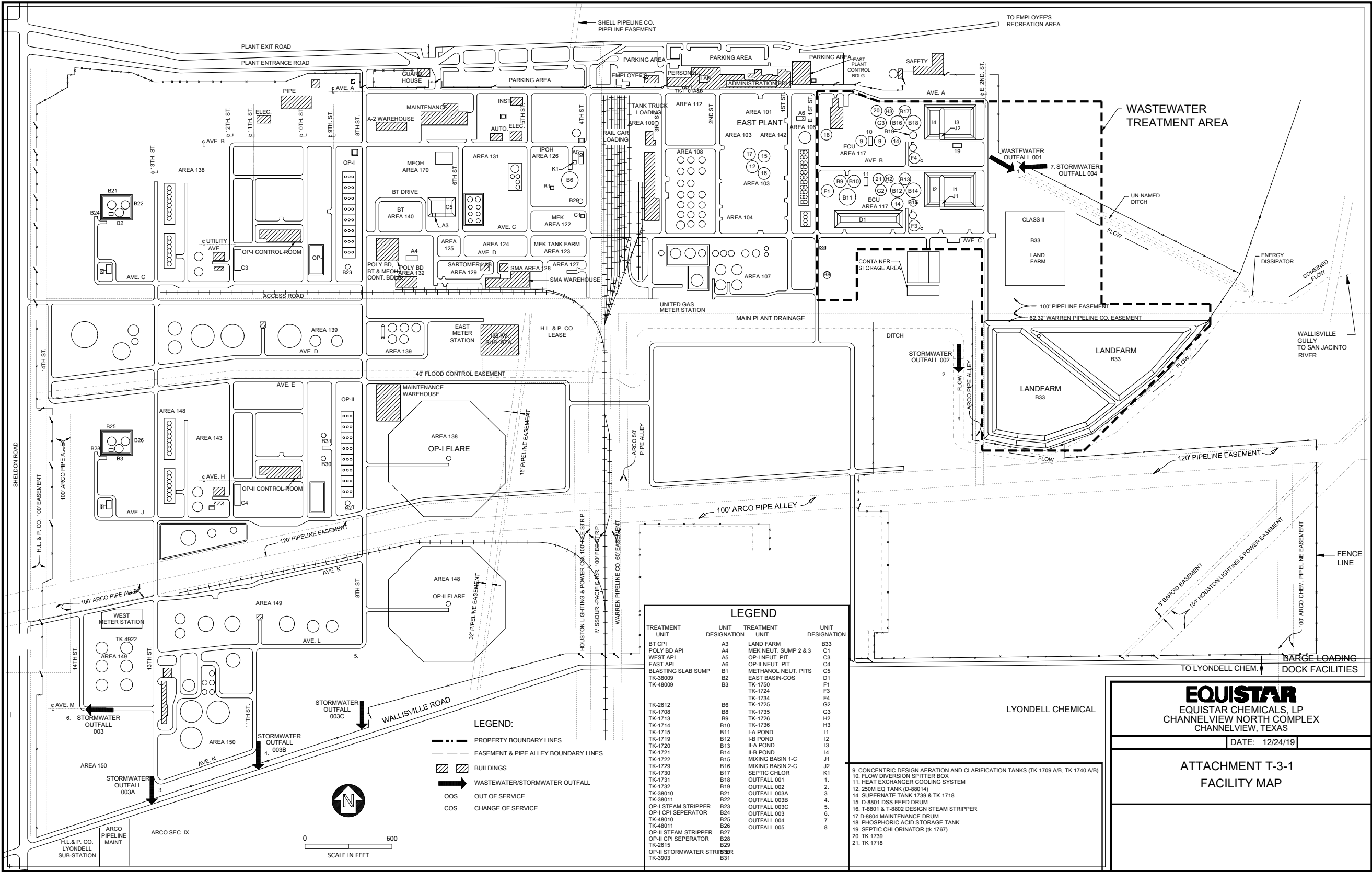


FIGURE 2. WASTEWATER FLOW DIAGRAM





EQUISTAR
EQUISTAR CHEMICALS, LP
CHANNELVIEW NORTH COMPLEX
CHANNELVIEW, TEXAS

DATE: 12/24/19

ATTACHMENT T-3-1
FACILITY MAP

9. CONCENTRIC DESIGN AERATION AND CLARIFICATION TANKS (TK 1709 A/B, TK 1740 A/B)

10. FLOW DIVERSION SPITTER BOX

11. HEAT EXCHANGER COOLING SYSTEM

12. 250M EQ TANK (D-88014)

14. SUPERNATE TANK 1739 & TK 1718

15. D-8801 DSS FEED DRUM

16. T-8801 & T-8802 DESIGN STEAM STRIPPER

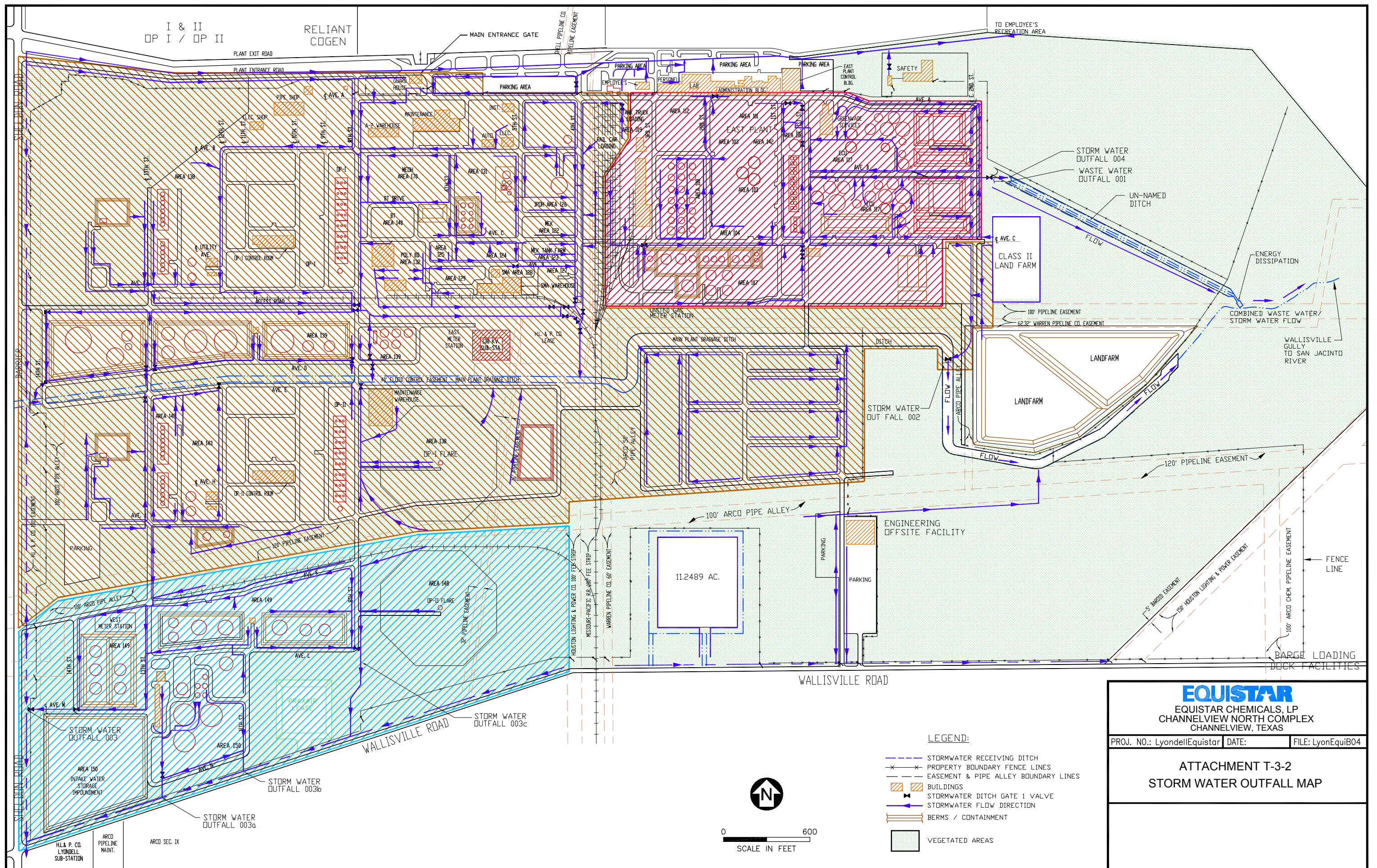
17. D-8804 MAINTENANCE DRUM

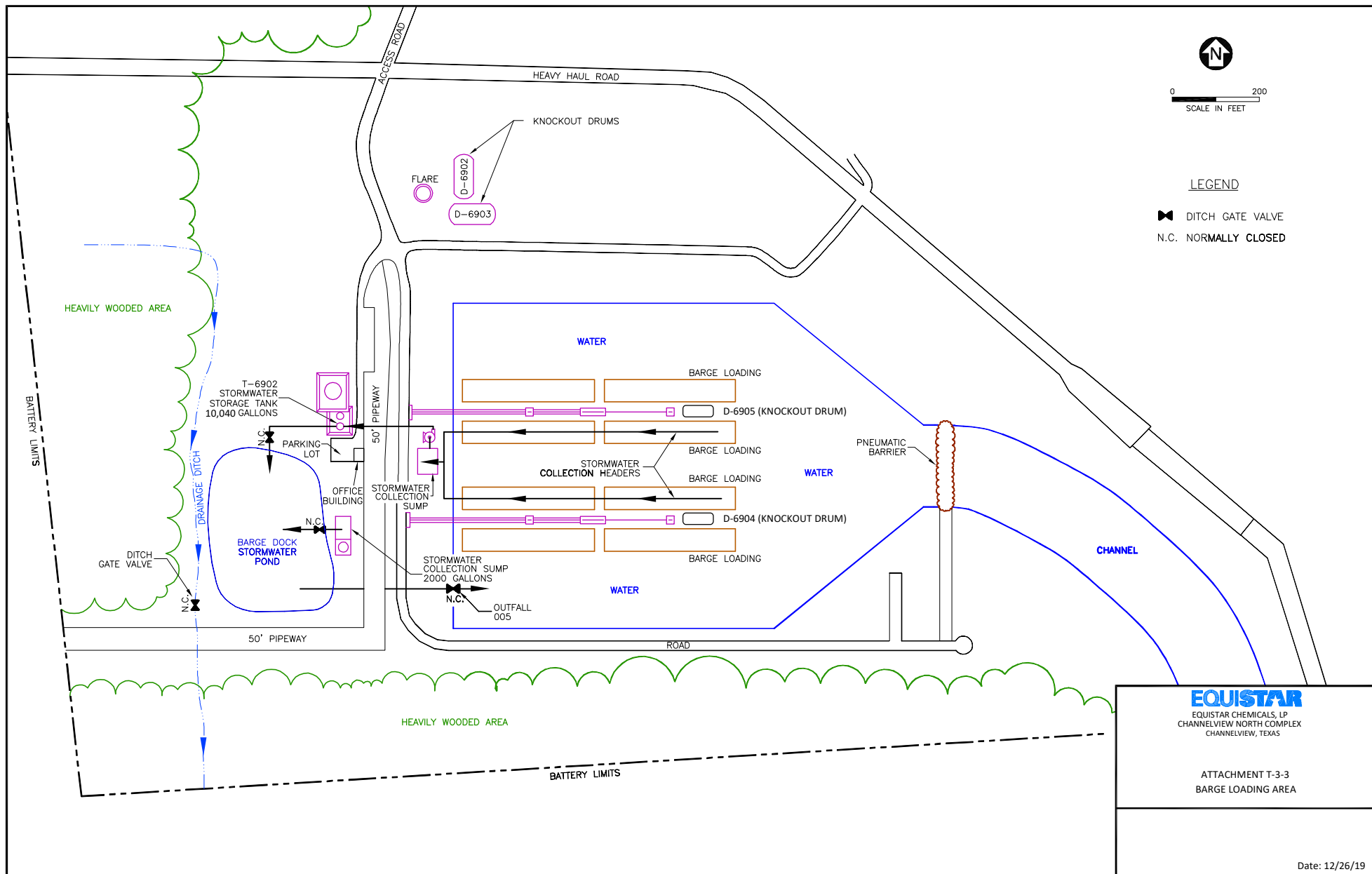
18. PHOSPHORIC ACID STORAGE TANK

19. SEPTIC CHLORINATOR (K 1767)

20. TK 1739

21. TK 1718





Leah Whallon

From: Reza, Joseph A <joseph.reza@lyondellbasell.com>
Sent: Wednesday, October 15, 2025 1:42 PM
To: Leah Whallon
Cc: Hassan, Rebecca
Subject: RE: Application to Renew Permit No. WQ0000391000; Equistar Chemicals, LP; Equistar Chemicals Channelview Complex
Attachments: wq0000391000-nod1.pdf; wq0000391000 Translation - Complete.docx
Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon,

Everything looked good in item 1. I have attached the Spanish translation for item 2. Let me know if anything else is needed.



Joseph A. Reza
Senior Environmental Engineer
P.O. Box 777
8280 Sheldon RD. PMDI BLDG RM115
Channelview, TX 77530
O: +1 281.457.8032
joseph.reza@lyondellbasell.com

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Thursday, October 2, 2025 1:33 PM
To: Reza, Joseph A <joseph.reza@lyondellbasell.com>
Subject: Application to Renew Permit No. WQ0000391000; Equistar Chemicals, LP; Equistar Chemicals Channelview Complex

You don't often get email from leah.whallon@tceq.texas.gov. [Learn why this is important](#)

This email originated outside LyondellBasell. Do not click on links or open attachments unless you recognize the sender.
Good Afternoon,

Please see the attached Notice of Deficiency letter dated October 2, 2025, requesting additional information needed to declare the application administratively complete. Please send the complete response by October 16, 2025.

Please let me know if you have any questions.

Thank you,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at
www.tceq.texas.gov/customersurvey

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the following link: <https://www.lyondellbasell.com/en/disclaimer/>

Comisión de Calidad Ambiental del Estado de Texas



AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0000391000

SOLICITUD. Equistar Chemicals, LP, P.O. Box 777, Channelview, Texas 77530, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0000391000 (EPA I.D. No. TX0003531 del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas y aguas pluviales en un volumen que no sobrepasa un flujo promedio diario de 8,900,000 galones por día vía Desagüe 001; la descarga de aguas residuales y pluviales en un volumen intermitente y variable de flujo vía Desagües 002, 003, 004, y 005; y la descarga de aguas pluviales en un volumen intermitente y variable de flujo vía Desagües 006 y 007. La planta está ubicada en 8280 Sheldon Road, cerca de Channelview, en el Condado de Harris, Texas 77530. La ruta de descarga es del sitio de la planta vía Desagües 001 y 004 a una zanja de drenaje sin nombre, de allí a Wallisville Gully, de allí a Marea del río San Jacinto vía Desagües 002 hasta Wallisville Gully, de allí a Marea del río San Jacinto; vía Desagüe 005 directamente a Marea del río San Jacinto; vía Desagüe 003 hasta una zanja de drenaje sin nombre, de allí a una zanja de Distrito de Control de Inundaciones del Condado de Harris (HCFCD, por sus siglas en inglés), de allí a Marea del río San Jacinto; y vía Desagüe 006 hasta una zanja de HCFCD, de allí a Marea del río San Jacinto. La TCEQ recibió esta solicitud el 25 de septiembre de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Pública, sucursal de North Channel, 15741 Wallisville Road, Houston, en el Condado de Harris, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. <https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.118055,29.832777&level=18>

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión**

preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión.

La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. **Si se concede una audiencia, el tema de la audiencia estará**

limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos del solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para detalles sobre el estado de la solicitud, favor de visitar la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Para buscar en la base de datos, utilizar el número de permiso para esta solicitud que aparece en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía <http://www14.tceq.texas.gov/epic/eComment/> o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Equistar Chemicals, LP a la dirección indicada arriba o llamando a Sr. Joseph A. Reza, Ingeniero Ambiental Senior, al 281-457-8032.

Fecha de emisión: *[Date notice issued]*