



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



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.

Ketjen Limited Liability Company (CN606211746) operates the Ketjen Pasadena Plant (RN100218247), which produces organic and inorganic chemicals. The facility is located at 2500 North South Street, Pasadena, Harris County, Texas 77503.

The application is to renew TPDES Permit No. WQ0000492000 to discharge a maximum average of 6.164 million gallons per day of process wastewater, utility wastewater, domestic wastewater, stormwater, and other wastewaters via Outfall 001. Outfalls 003 and 004 discharge stormwater, utility wastewater, and other wastewaters. All of the outfalls discharge into the Houston Ship Channel.

Wastewater treatment processes for Outfall 001 include oil/water separation, neutralization, biological treatment, sedimentation, and filtration. Outfalls 003 and 004 are discharged without treatment.

Discharges from the outfalls are expected to contain total organic carbon, oil and grease, suspended solids, and metals. Other potential pollutants that may be in the discharge 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.

Ketjen Limited Liability Company (CN606211746) opera la Ketjen Pasadena Plant (RN100218247), que produce productos químicos orgánicos e inorgánicos. La instalación está ubicada en 2500 North South Street, Pasadena, Condado de Harris, Texas 77503.

La solicitud es para renovar el permiso TPDES no. WQ0000492000 para verter un máximo medio de 6.164 millones de galones al día de aguas residuales de proceso, aguas residuales de servicios públicos, aguas residuales domésticas, aguas pluviales y otras aguas residuales a través del Outfall 001. Los Outfalls 003 y 004 descargan aguas pluviales, aguas residuales de servicios públicos y otras aguas residuales. Todos los Outfalls descargan al Canal de Navegación de Houston.

Los procesos de tratamiento de aguas residuales del Outfall 001 incluyen la separación de aceite y agua, la neutralización, el tratamiento biológico, la sedimentación y la filtración. Los Outfalls 003 y 004 se descargan sin tratamiento.

Se espera que los descargas de los Outfalls contengan carbono orgánico total, aceite y grasa, sólidos en suspensión 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. WQ0000492000

APPLICATION. Ketjen Limited Liability Company, P.O. Box 2500, Pasadena, Texas 77501, which owns an industrial organic and inorganic chemical production facility, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0000492000 (EPA I.D. No. TX0004731) to authorize the discharge of treated wastewater and stormwater at a volume not to exceed a daily average flow of 6,164,000 gallons per day via Outfall 001 and at an intermittent and flow-variable volume via Outfalls 003 and 004. The facility is located at 2500 North South Street, in the city of Pasadena, Harris County, Texas 77503. The discharge route is from the plant site via Outfalls 001 and 003 directly to Houston Ship Channel Tidal and via Outfall 004 directly to Houston Ship Channel/Buffalo Bayou Tidal. TCEQ received this application on June 10, 2025. The permit application will be available for viewing and copying at Pasadena Public Library - Central, 1201 Jeff Ginn Memorial Drive, Pasadena, 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=-95.168611,29.738888&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 Ketjen Limited Liability Company at the address stated above or by calling Mr. Chris Arceneaux, Environmental Professional, at 713-740-1160.

Issuance Date: July 1, 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. WQ0000492000

SOLICITUD. Ketjen Limited Liability Company, P.O. Box 2500, Pasadena, Texas 77501, propietaria de una planta industrial de producción de productos químicos orgánicos e inorgánicos, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0000492000 (EPA I.D. No. TX0004731) 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 6,164,000 galones por día a través del Outfall 001 y en un volumen intermitente y variable a través de los Outfalls 003 y 004. La planta está ubicada en 2500 North South Street, en la ciudad de Pasadena, Condado de Harris, Texas 77503. La ruta de descarga es del sitio de la planta a través de los Outfalls 001 y 003 directamente al canal de navegación de Houston y través del Outfall 004 directamente al canal de navegación de Houston/Buffalo Bayou. La TCEQ recibió esta solicitud el 10 de junio de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Publica de Pasadena – Central, 1201 Jeff Ginn Memorial Drive, Pasadena, 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=-95.168611,29.738888&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 todos 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 agregue 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 Ketjen Limited Liability Company a la dirección indicada arriba o llamando a Sr. Chris Arceneaux, Environmental Professional, al 713-740-1160.

Fecha de emisión: 1 de julio 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

June 10, 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: ER000157
Application Reference Number: 761745
Authorization Number: WQ0000492000
Site Name: Ketjen Pasadena Plant
Regulated Entity: RN100218247 - Ketjen Pasadena Plant
Customer(s): CN606211746 - Ketjen Limited Liability Company

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
WQ0000492000

Site Information (Regulated Entity)

What is the name of the site to be authorized?	KETJEN PASADENA PLANT
Does the site have a physical address?	Yes

Physical Address

Number and Street	2500 N SOUTH ST
City	PASADENA
State	TX
ZIP	77503
County	HARRIS
Latitude (N) (##.#####)	29.738888
Longitude (W) (-###.#####)	-95.168611
Primary SIC Code	2869
Secondary SIC Code	2819
Primary NAICS Code	325199
Secondary NAICS Code	

Regulated Entity Site Information

What is the Regulated Entity's Number (RN)?	RN100218247
What is the name of the Regulated Entity (RE)?	KETJEN PASADENA PLANT
Does the RE site have a physical address?	Yes

Physical Address

Number and Street	2500 N SOUTH ST
City	PASADENA
State	TX
ZIP	77503
County	HARRIS
Latitude (N) (##.#####)	29.738888
Longitude (W) (-###.#####)	-95.168055
Facility NAICS Code	
What is the primary business of this entity?	INDUSTRIAL CHEMICAL MFG

Ketjen -Customer (Applicant) Information (Owner)

How is this applicant associated with this site?	Owner
What is the applicant's Customer Number (CN)?	CN606211746
Type of Customer	Corporation

Full legal name of the applicant:

Legal Name	Ketjen Limited Liability Company
Texas SOS Filing Number	804803653
Federal Tax ID	884253232
State Franchise Tax ID	32087070283
State Sales Tax ID	
Local Tax ID	
DUNS Number	119071852
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	Ketjen Limited Liability Company
Prefix	MS
First	LISA
Middle	
Last	FRUGE
Suffix	
Credentials	
Title	PLANT MANAGER

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 2500
Routing (such as Mail Code, Dept., or Attn:)	
City	PASADENA
State	TX
ZIP	77501
Phone (###-###-####)	7137401166
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	LISA.FRUGE@KETJEN.COM

Billing Contact**Responsible contact for receiving billing statements:**

Select the permittee that is responsible for payment of the annual fee.	CN606211746, Ketjen Limited Liability Company
Organization Name	KETJEN LIMITED LIABILITY

Prefix	COMPANY
First	MR
Middle	DOUG
Last	THOMPSON
Suffix	
Credentials	
Title	ENVIRONMENTAL MANAGER
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 2500
Routing (such as Mail Code, Dept., or Attn:)	
City	PASADENA
State	TX
ZIP	77501
Phone (###-###-####)	7137401710
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	US.KETJEN.INVOICES@KETJEN.CO M

Application Contact

Person TCEQ should contact for questions about this application:

Same as another contact?

Organization Name	KETJEN LIMITED LIABILITY COMPANY
Prefix	
First	CHRIS
Middle	
Last	ARCENEUX
Suffix	
Credentials	
Title	ENVIRONMENTAL PROFESSIONAL
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 2500
Routing (such as Mail Code, Dept., or Attn:)	

City	PASADENA
State	TX
ZIP	77501
Phone (###-###-####)	7137401160
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	CHRIS.ARCENEUX@KETJEN.COM

Technical Contact

Person TCEQ should contact for questions about this application:

Same as another contact?	Application Contact
Organization Name	KETJEN LIMITED LIABILITY COMPANY
Prefix	MR
First	CHRIS
Middle	
Last	ARCENEUX
Suffix	
Credentials	
Title	ENVIRONMENTAL PROFESSIONAL

Enter new address or copy one from list:

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 2500
Routing (such as Mail Code, Dept., or Attn:)	
City	PASADENA
State	TX
ZIP	77501
Phone (###-###-####)	7137401160
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	CHRIS.ARCENEUX@KETJEN.COM

DMR Contact

Person responsible for submitting Discharge Monitoring Report Forms:

Same as another contact?	Technical Contact
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Organization Name	KETJEN LIMITED LIABILITY COMPANY
Prefix	MR
First	CHRIS
Middle	
Last	ARCENEUX
Suffix	
Credentials	
Title	ENVIRONMENTAL PROFESSIONAL
Enter new address or copy one from list:	
Mailing Address:	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	PO BOX 2500
Routing (such as Mail Code, Dept., or Attn:)	
City	PASADENA
State	TX
ZIP	77501
Phone (###-###-####)	7137401160
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	CHRIS.ARCENEUX@KETJEN.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	KETJEN LIMITED LIABILITY COMPANY
3) Prefix	MR
4) First	CHRIS
5) Middle	
6) Last	ARCENEUX
7) Suffix	
8) Credentials	
9) Title	ENVIRONMENTAL PROFESSIONAL
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 2500
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	PASADENA
11.4) State	TX
11.5) ZIP	77501
12) Phone (###-###-####)	7137401160
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	CHRIS.ARCENEUX@KETJEN.COM

Section 2# Permit Contact

Permit Contact#: 2

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	Billing Contact
2) Organization Name	KETJEN LIMITED LIABILITY COMPANY
3) Prefix	MR
4) First	DOUG
5) Middle	
6) Last	THOMPSON
7) Suffix	
8) Credentials	
9) Title	ENVIRONMENTAL MANAGER

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 2500
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	PASADENA
11.4) State	TX
11.5) ZIP	77501
12) Phone (###-###-####)	7137401710
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	DOUG.THOMPSON@KETJEN.COM

Owner Information

Owner of Treatment Facility

1) Prefix	
2) First and Last Name	
3) Organization Name	KETJEN LIMITED LIABILITY COMPANY
4) Mailing Address	PO BOX 2500
5) City	PASADENA
6) State	TX
7) Zip Code	77501
8) Phone (###-###-####)	7137401166
9) Extension	
10) Email	LISA.FRUGE@KETJEN.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	KETJEN LIMITED LIABILITY COMPANY
15) Mailing Address	PO BOX 2500
16) City	PASADENA
17) State	TX
18) Zip Code	77501
19) Phone (###-###-####)	7137401166
20) Extension	
21) Email	LISA.FRUGE@KETJEN.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:	12/08/2025
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?	TX0004731
6.2) Is the wastewater treatment facility location in the existing permit	Yes

accurate?

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):

Pasadena

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?

No

6.7) Is the daily average discharge at your facility of 5 MGD or more?

Yes

6.7.1) Provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge:

BRAZORIA|CHAMBERS|
GALVESTON|HARRIS|JEFFERSON

7) Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

No

Public Notice Information

Individual Publishing the Notices

1) Prefix

2) First and Last Name

CHRIS ARCENEUX

3) Credential

4) Title

ENVIRONMENTAL PROFESSIONAL

5) Organization Name

KETJEN LIMITED LIABILITY
COMPANY

6) Mailing Address

PO BOX 2500

7) Address Line 2

8) City

PASADENA

9) State

TX

10) Zip Code

77501

11) Phone (###-###-####)

7137401160

12) Extension

13) Fax (###-###-####)

14) Email

CHRIS.ARCENEUX@KETJEN.COM

Contact person to be listed in the Notices

15) Prefix

16) First and Last Name

CHRIS ARCENEUX

17) Credential

18) Title

ENVIRONMENTAL PROFESSIONAL

19) Organization Name

KETJEN LIMITED LIABILITY
COMPANY

20) Phone (###-###-####)

7137401160

21) Fax (###-###-####)

22) Email

CHRIS.ARCENEUX@KETJEN.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	Pasadena Public Library / Central
3) Location within the building	
4) Physical Address of Building	1201 Jeff Ginn Memorial Drive
5) City	Pasadena
6) Contact Name	
7) Phone (###-###-####)	7134770276
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 WQ0000492000 2025.pdf
Hash	998695A107462E504585E185596C143CD4158AA6627DCD7FDEF8BF0A4EAB3366
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 WQ0000492000 2025.pdf
Hash	9404C4527FE42D6B67B030670A0D4AA5C75FE894DEC4D93AC0991E8DEE6E089B
MIME-Type	application/pdf

[File Properties]

File Name	SPIF_Attachment SPIF-2 WQ0000492000 Ketjen USGS Map.pdf
Hash	541C628EC9D8048A1A484333F4548DBA9327E29C467C86054F1BCF75302A91A9
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 WQ0000492000 Ketjen USGS Map.pdf
Hash	D553F817A193D1923C3A9B4B0D5A9B4BCFEFFBAA6F59551E89472C9E7834735F
MIME-Type	application/pdf

2) I confirm that all required sections of Technical Report 1.0 are complete and will be included in the Technical Attachment.	Yes
--	-----

2.1) I confirm that Worksheet 2.0 (Pollutant Analyses Requirements) is complete and included in the Technical Attachment.	Yes
---	-----

2.2) I confirm that Worksheet 4.0 (Receiving Waters) is complete and included in the Technical Attachment.	Yes
--	-----

2.3) Are you planning to include Worksheet 4.1 (Waterbody Physical Characteristics) in the Technical Attachment?	No
--	----

2.4) Are you planning to include Worksheet 6.0 (Industrial Waste Contribution) in the Technical Attachment?	No
---	----

2.5) Are you planning to include Worksheet 7.0 (Stormwater Discharges Associated with Industrial Activities) to the Technical Attachment?	No
---	----

2.6) Are you planning to include Worksheet 8.0 (Aquaculture) in the Technical Attachment?	No
---	----

2.7) Are you planning to include Worksheet 9.0 (Class V Injection Well Inventory/Authorization) in the Technical Attachment?	No
--	----

2.8) Are you planning to include Worksheet 10.0 (Quarries in the John Graves Scenic Riverway) in the Technical Attachment?	No
--	----

2.9) Are you planning to include Worksheet 11.0 (Cooling Water System Information) in the Technical Attachment?	No
---	----

2.10) Are you planning to include Worksheet 11.1 (Impingement Mortality) in the Technical Attachment?	No
---	----

2.11) Are you planning to include Worksheet 11.2 (Source Water Biological Data) in the Technical Attachment?	No
--	----

2.12) Are you planning to include Worksheet 11.3 (Entrainment) in the Technical Attachment?	No
---	----

2.13) Technical Attachment

[File Properties]

File Name	TECH_WQ0000492000 TPDES Technical Report 2025.pdf
Hash	7254DE0F2189352AB7AF765822096EE30945BD3D4FA268505F76D10DAB8259DE
MIME-Type	application/pdf

3) Flow Diagram

[File Properties]

File Name	FLDIA_Figure 1 WQ0000492000 Ketjen Wastewater Flow Diagram 2025.pdf
Hash	8D3CF803F2B4D0123BFD0D2B2FE59AF065DA42EEA7007D5F69B8692D9756E3E5
MIME-Type	application/pdf

4) Site Drawing

[File Properties]

File Name	SITEDR_Figure 1 WQ0000492000 Ketjen Wastewater Flow Diagram 2025.pdf
Hash	8D3CF803F2B4D0123BFD0D2B2FE59AF065DA42EEA7007D5F69B8692D9756E3E5
MIME-Type	application/pdf

5) Design Calculations

[File Properties]

File Name	DES_CAL_WQ0000492000 Table 2 Outfall Wastewaters.pdf
Hash	CD3E19D8067269F47BCA4539B019BD7110393B1C6BF2873B5CB4DD2ECCBF2113
MIME-Type	application/pdf

6) Solids Management Plan

7) Water Balance

[File Properties]

File Name	WB_WQ0000492000 Table 2 Outfall Wastewaters.pdf
Hash	CD3E19D8067269F47BCA4539B019BD7110393B1C6BF2873B5CB4DD2ECCBF2113
MIME-Type	application/pdf

8) Other Attachments

[File Properties]

File Name	OTHER_Attachment T-1 WQ0000492000 Ketjen Facility Description.pdf
Hash	9B13A51667B2C7C249C97BC27309BE4D49E81245AA99160FE069F95378A0B4C8
MIME-Type	application/pdf

[File Properties]

File Name	OTHER_WQ0000492000 Table of Contents.pdf
Hash	92A769B5C458CE533C74514425B1978D6B3A3E555EEBC2FB7BF6E5AB4857C166
MIME-Type	application/pdf

[File Properties]

File Name	OTHER_Attachment T-3 WQ0000492000 Treatment Chemicals.pdf
Hash	B20E8D001E5E93494536F281006F90BA4F8B911728C1227C6419CB7655F7D7E4
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 Lisa Fruge, the owner of the STEERS account ER068673.
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 WQ0000492000.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OWNER Signature: Lisa Fruge OWNER

Customer Number:	CN606211746
Legal Name:	Ketjen Limited Liability Company
Account Number:	ER068673
Signature IP Address:	12.63.245.242
Signature Date:	2025-06-10
Signature Hash:	61AFA8E28B9CC64E46F35915D8A98F82C63368924F23EB8DFC6A19EF4EDD6445
Form Hash Code at time of Signature:	44C1515546EEF8AA2A4BB7BAC39975652C87C37794AB7B05FCDE3BBF2AF2EEC1

Fee Payment

Transaction by:	The application fee payment transaction was made by ER000157/Douglas K Thompson
Paid by:	The application fee was paid by DOUG THOMPSON
Fee Amount:	\$2000.00
Paid Date:	The application fee was paid on 2025-06-10
Transaction/Voucher number:	The transaction number is 582EA000671676 and the voucher number is 770240

Submission

Reference Number:	The application reference number is 761745
Submitted by:	The application was submitted by ER000157/Douglas K Thompson
Submitted Timestamp:	The application was submitted on 2025-06-10 at 10:26:25 CDT
Submitted From:	The application was submitted from IP address 20.225.211.195
Confirmation Number:	The confirmation number is 657999
Steers Version:	The STEERS version is 6.91
Permit Number:	The permit number is WQ0000492000

Additional Information

Application Creator: This account was created by Chris A Arceneaux

**Ketjen Limited Liability Company
Ketjen Pasadena Plant
TPDES WQ0000492000 Renewal 2025**

Application Contents

Administrative Report 1.0

Technical Report 1.0

Worksheet 1 - EPA Categorical Effluent Guidelines

Worksheet 2 - Outfall Analyses

Worksheet 4 - Receiving Waters

Worksheet 5 - Domestic Wastewater

Attachments

Cross-reference to
Application Item

SPIF-1 Supplemental Permit Information Form (SPIF)

AR

SPIF-2 USGS Map

SPIF-7

PLS-1 Plain Language Summary

AR1.0-9.f

A-1 USGS Map

AR1.0-11.b

T-1 Facility Description

TR-1.b, 2.a, 6

Table 1. Raw Materials, Intermediates, and Products

TR-1.c

Table 2. Outfall Wastewaters

TR-4

Figure 1. Wastewater Flow Diagram

TR -2.b

T-2 Drawings

TR-1.d

02-00-00-00-CE-21

02-00-00-00-CE-22

02-00-00-00-CE-28

T-3 Treatment Chemicals and SDSs

TR-5.b

Reference Key

AR1.0 Administrative Report 1.0

SPIF Supplemental Permit Information Form

TR Technical Report

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.

Ketjen Limited Liability Company (CN606211746) operates the Ketjen Pasadena Plant (RN100218247), which produces organic and inorganic chemicals. The facility is located at 2500 North South Street, Pasadena, Harris County, Texas 77503.

The application is to renew TPDES Permit No. WQ0000492000 to discharge a maximum average of 6.164 million gallons per day of process wastewater, utility wastewater, domestic wastewater, stormwater, and other wastewaters via Outfall 001. Outfalls 003 and 004 discharge stormwater, utility wastewater, and other wastewaters. All of the outfalls discharge into the Houston Ship Channel.

Wastewater treatment processes for Outfall 001 include oil/water separation, neutralization, biological treatment, sedimentation, and filtration. Outfalls 003 and 004 are discharged without treatment.

Discharges from the outfalls are expected to contain total organic carbon, oil and grease, suspended solids, and metals. Other potential pollutants that may be in the discharge 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.

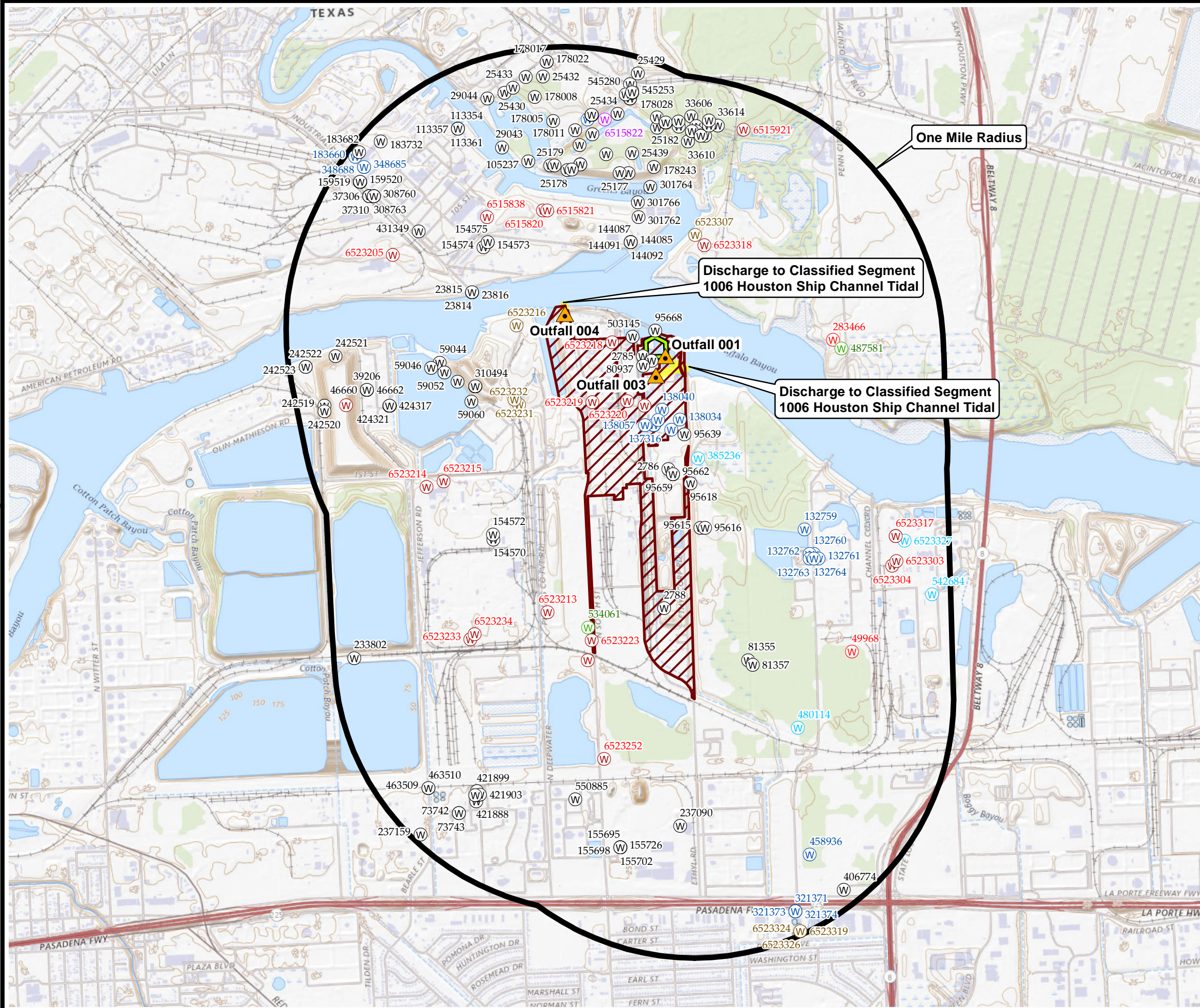
Ketjen Limited Liability Company (CN606211746) opera la Ketjen Pasadena Plant (RN100218247), que produce productos químicos orgánicos e inorgánicos. La instalación está ubicada en 2500 North South Street, Pasadena, Condado de Harris, Texas 77503.

La solicitud es para renovar el permiso TPDES no. WQ0000492000 para verter un máximo medio de 6.164 millones de galones al día de aguas residuales de proceso, aguas residuales de servicios públicos, aguas residuales domésticas, aguas pluviales y otras aguas residuales a través del Outfall 001. Los Outfalls 003 y 004 descargan aguas pluviales, aguas residuales de servicios públicos y otras aguas residuales. Todos los Outfalls descargan al Canal de Navegación de Houston.

Los procesos de tratamiento de aguas residuales del Outfall 001 incluyen la separación de aceite y agua, la neutralización, el tratamiento biológico, la sedimentación y la filtración. Los Outfalls 003 y 004 se descargan sin tratamiento.

Se espera que los descargas de los Outfalls contengan carbono orgánico total, aceite y grasa, sólidos en suspensión y metales. Otros contaminantes potenciales que pueden estar presentes en las descargas se incluyen en la Worksheet 2 de la solicitud TPDES.

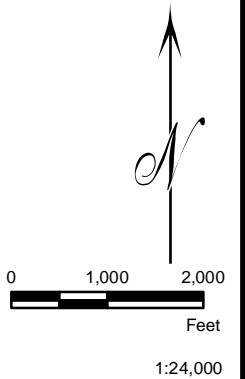
J:\P\Albemarle\Pasadena\TPDES 2021\USGS Map.mxd



LEGEND

- Albemarle Corporation Property Boundary
- Wastewater Treatment Facility
- Outfall Locations
- Discharge Route
- TWDB Wells**
 - Domestic
 - Environmental Soil Boring
 - Industrial
 - Monitor
 - Plugged or Destroyed
 - Public Supply
 - Rig Supply
 - Unused
 - One Mile Radius

SOURCE:
USGS TOPOGRAPHIC QUADRANGLES 7.5 MINUTE SERIES:
JACINTO CITY, TX; PASADENA, TX



ALBEMARLE CORPORATION
PASADENA, TX
WQ0000492000

ATTACHMENT A-1 USGS MAP

DRAWN BY:	S WILSON	SCALE:	AS NOTED	PROJ. NO.	TPDES 2021
CHECKED BY:	D KOCUREK	FILE NO.	USGS Map.mxd		
APPROVED BY:	D KOCUREK	DATE PRINTED:			
DATE:	November 2021	11/11/2021			



Attachment SPIF-1

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 WO-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: Ketjen Limited Liability Company

Permit No. WQ00 00492000

EPA ID No. TX 0004731

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

2500 North South Street, Pasadena, Harris County, TX 77503

Attachment SPIF-1

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: Doug Thompson

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

Title: Environmental Manager

Mailing Address: Ketjen Limited Liability Company

City, State, Zip Code: P.O. Box 2500. Pasadena, TX 77501-2500

Phone No.: 713-740-1710 Ext.: N/A Fax No.: N/A

E-mail Address: doug.thompson@ketjen.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 003 directly to Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin, and via Outfall 004 directly to Houston Ship Channel/Buffalo Bayou Tidal in Segment No. 1007 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).

Attachment SPIF-2 USGS Map

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

The chemical manufacturing facility began construction on undeveloped land in the early 1950s. Several of the buildings that were constructed at that time are still in use as office buildings (2-4 stories), locker rooms, lunchrooms, warehouses, and similar utility buildings. Some of the manufacturing equipment is located within roofed structures, but many of the equipment pieces, such as storage tanks and distillation columns, are located only within spill containment walls. As manufacturing processes expire or change, the structures are modified or removed to accommodate the ongoing industrial activities. Photos of the buildings can be provided upon request.

Attachment SPIF-1

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

N/A

- ☐ 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

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:

The site is an industrial chemical manufacturing facility.

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:

Chemical manufacturing operations began at the site in 1952 with later changes in operations and on-site companies.

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

N/A



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 Ketjen Pasadena Plant manufactures industrial organic and inorganic chemicals. Applicable SIC codes are 2869 and 2819.

- 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: Drawings 02-00-00-00-CE-21, 02-00-00-00-CE-22, 02-00-00-00-CE-28

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: FEMA NFIP FIRM Panel 0910L, Map Number 48201Co910L

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: The plant is protected by a flood wall designed to prevent washout from the 100-year flood.

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 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 Aeration- Detention Basin	Pond #2 Storm Water Holdup Basin	Pond #3 East Drainage Basin	Process Canal	Mix Sump
Use Designation: (T) (D) (C) or (E)	T	C	C	T	T
Associated Outfall Number	001	001	001	001	001
Liner Type (C) (I) (S) or (A)	In situ soil	In situ soil	In situ soil	In situ soil	In situ soil
Alt. Liner Attachment Reference	N/A	N/A	N/A	N/A	N/A
Leak Detection System, Y/N	N	N	N	N	N
Groundwater Monitoring Wells, Y/N	N	N	N	N	N
Groundwater Monitoring Data Attachment	N/A	N/A	N/A	N/A	N/A
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	N/A	N/A	N/A	N/A	N/A
Length (ft)	420	Irregular	Irregular	910	165
Width (ft)	390	Irregular	Irregular	75	20
Max Depth From Water Surface (ft), Not Including Freeboard	7	5.5	7	9	2
Freeboard (ft)	1	2	Designed to overflow to Pond #2	Designed to overflow to Pond #2	Designed to overflow to Pond #1
Surface Area (acres)	3.8	2.4	0.2	1.6	0.1
Storage Capacity (gallons)	8,600,000	4,200,000	500,000	4,600,000	50,000
40 CFR Part 257, Subpart D, Y/N	N	N	N	N	N
Date of Construction	N/A	N/A	N/A	N/A	N/A
<i>Note: These units were not originally designed to maintain 2-ft freeboard. The information that is provided for freeboard is based on typical operation, outside of upset and large storm events.</i>					

Parameter	North Sand Bed	South Sand Bed	Drying Area	North Solids Area	South Solids Area
Use Designation: (T) (D) (C) or (E)	T/C	T/C	C/E	C	C
Associated Outfall Number	001	001	001	001	001
Liner Type (C) (I) (S) or (A)	In situ soil	In situ soil	In situ soil	In situ soil	In situ soil
Alt. Liner Attachment Reference	N/A	N/A	N/A	N/A	N/A
Leak Detection System, Y/N	N	N	N	N	N
Groundwater Monitoring Wells, Y/N	N	N	N	N	N
Groundwater Monitoring Data Attachment	N/A	N/A	N/A	N/A	N/A
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	N/A	N/A	N/A	N/A	N/A
Length (ft)	550	530	710	200	150
Width (ft)	180	180	410	150	150
Max Depth From Water Surface (ft), Not Including Freeboard	3.5	3.5	10	7	7
Freeboard (ft)	Designed to overflow to North Solids Area	Designed to overflow to South Solids Area	2	2	2
Surface Area (acres)	2.3	2.2	6.7	0.7	0.5
Storage Capacity (gallons)	2,600,000	2,500,000	22,000,000	1,600,000	1,200,000
40 CFR Part 257, Subpart D, Y/N	N	N	N	N	N
Date of Construction	N/A	N/A	N/A	N/A	N/A
<i>Note: These units were not originally designed to maintain 2-ft freeboard. The information that is provided for freeboard is based on typical operation, outside of upset and large storm events.</i>					

Attachment: N/A

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

There are no 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

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	29.743011	-95.166609
003	29.741942	-95.167265
004	29.745543	-95.172973

Outfall Location Description

Outfall No.	Location Description
001	At the monitoring station where effluent discharges from the wastewater treatment system and prior to commingling with other waters
003	At the foot bridge, upstream of Pump Station 1, in the northeast portion of the property
004	At the northwest corner of the property, north of the intersection of First Street and South Street

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

Outfall No.	Description of sampling point
001	Same as outfall location for all parameters except enterococci (bacteria). For enterococci, samples are taken of the domestic wastewater after final treatment and prior to the treated domestic wastewater commingling with other wastewaters.
003	Same as outfall location
004	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	6.164	13.3	6.164	13.3	N/A
003	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

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	N	Y	Montana flume
003	N	Y	Estimate
004	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
003	Y	N	N	Variable	Variable	Variable
004	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 Outfall Wastewaters.		

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-3 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	4	See Attachment T-1 Facility Description, Table 2 Outfall Wastewaters.	
Boilers	6 (4 inactive)		

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: On occasion, some domestic wastewater may be collected in temporary 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.
See Worksheet 5.	

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: Biomonitoring of Outfall 001 is required by the TPDES permit for acute and chronic toxicity tests with mysid shrimp and the inland silverside.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** N/A. All test results are submitted as part of discharge monitoring reports.

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: T-1 Facility Description

- 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)
Cesium 137 is used in nuclear gauges, but is not expected to be in contact with wastewaters discharged.	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	City of Houston / Coastal Water Authority
Owner	-
Operator	-

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

☐ No ☒ Yes; 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: Lisa Fruge

Title: Plant Manager

Certification provided with online application submittal via TCEO Steers.

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	414

Item 2. 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
See Attachment T-1 Facility Description, Table 2 Outfall Wastewaters.			

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

N/A

Item 3. 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 2 Outfall Wastewaters.

Item 4. 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
See Attachment T-1 Facility Description, Table 2 Outfall Wastewaters.			

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): 04/15 – 05/27/2025
- 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 list below.

Laboratories for Outfall Analyses	
Parameters	Laboratory
pH, sulfite, temperature, total residual chlorine	Ketjen Limited Liability Company Pasadena Plant (permittee)
Bisphenol A, nonylphenol, nitrotoluenes	Eurofins Denver 4955 Yarrow Street Arvada, CO 80002-4517 Accreditation Certificate: T104704183
Cyanide	Eurofins TestAmerica Laboratories Pittsburgh 301 Alpha Drive Pittsburgh, PA 15238-2907 Accreditation Certificate: T104704528
Mercury	Eurofins Arkansas 8600 Kanis Road Little Rock, AR 72204-2322 Accreditation Certificate: T104704575
All others	Eurofins Houston 4147 Greenbriar Dr. Stafford, TX 77477 Accreditation Certificate: T104704215

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 1 for Outfall No.: 001

Samples are (check one): ☒ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	15-Apr-25	22-Apr-25	29-Apr-25	6-May-25
				May 2-23, 2025 (DO)
BOD (5-day)	11.	8.8	6.1	12.
CBOD (5-day)	16.	6.5	16.	10.
Chemical oxygen demand	50.	42.	37.	57.
Total organic carbon	3.	2.	2.2	2.3
Dissolved oxygen	-	-	-	5.51, 5.37, 8.06, 8.58, 4.14, 4.25, 4.47, 4.56
Ammonia nitrogen	<0.051	0.19	<0.051	<0.051
Total suspended solids	42.	33.	24.	30.
Nitrate nitrogen	<0.039	0.061	<0.39	<0.039
Total organic nitrogen	2.5	4.5	7.	4.2
Total phosphorus	0.45	0.13	0.22	0.15
Oil and grease	<1.6	1.8	2.	<1.6
Total residual chlorine	<DL	<DL	0.22 (22-May-25)	<DL (27-May-25)
Total dissolved solids	2000.	4800.	4300.	2900.
Sulfate	890.	1100.	2600.	1300.
Chloride	370.	390.	820.	710.
Fluoride	0.37	0.28	<1.	0.56
Total alkalinity (mg/L as CaCO ₃)	10.	29.	29.	22.
Temperature (°F)	84.7	86.	92.8 (22-May-25)	92.7 (27-May-25)
pH (standard units)	7.15 / 7.47	6.41 / 6.38	7.49 / 7.47	6.76 / 6.69

Table 2 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)
	15-Apr-25	22-Apr-25	29-Apr-25	6-May-25	
Aluminum, total	2600.	1100.	920.	920.	2.5
Antimony, total	<1.1	<1.1	<1.1	<1.1	5
Arsenic, total	1.9	1.4	1.6	2.4	0.5
Barium, total	51.	45.	55.	57.	3
Beryllium, total	<0.38	<0.38	<0.38	<0.38	0.5
Cadmium, total	<0.26	<0.26	<0.26	<0.26	1
Chromium, total	1.4	<0.89	1.3	1.1	3
Chromium, hexavalent	<2.	<2.	<2.	-	3
Chromium, trivalent	1.4	0.89	0.3	1.1	N/A
Copper, total	6.3	9.6	12.	8.2	2
Cyanide, available	5.9	1.3	14.	13.	2/10
Lead, total	4.7	3.4	2.8	2.4	0.5
Mercury, total	0.0004	0.0016	<0.0002	0.0013	0.005/0.0005
Nickel, total	5.8	5.3	9.	8.1	2
Selenium, total	4.1	2.8	4.	7.	5
Silver, total	<0.35	<0.35	<0.35	<0.35	0.5
Thallium, total	<0.22	<0.22	0.25	<0.22	0.5
Zinc, total	32.	27.	20.	15.	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)*
	15-Apr-25, 13-May-25	22-Apr-25	29-Apr-25	6-May-25	
Acrylonitrile	<14.	<14.	<14.	<14.	50
Anthracene	<0.094	<0.94	<1.9	<0.94	10
Benzene	<0.46	<0.46	<0.46	<0.46	10
Benidine	<0.45	<4.5	<8.9	<4.5	50
Benzo(a)anthracene	<0.082	<0.82	<1.6	<0.82	5
Benzo(a)pyrene	<0.07	<0.7	<1.4	<0.7	5
Bis(2-chloroethyl)ether	<0.21	<2.1	<4.3	<2.1	10
Bis(2-ethylhexyl)phthalate	<1.4	<14.	<29.	<14.	10
Bromodichloromethane [Dichlorobromomethane]	<0.55	<0.55	<0.55	<0.55	10
Bromoform	4.1	8.5	5.5	5.1	10
Carbon tetrachloride	<0.9	<0.9	<0.9	<0.9	2
Chlorobenzene	<0.46	<0.46	<0.46	<0.46	10
Chlorodibromomethane	1.4	<0.55	<0.55	<0.55	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
[Dibromochloromethane]					
Chloroform	0.7	0.56	<0.46	<0.46	10
Chrysene	<0.082	<0.82	<1.6	<0.82	5
m-Cresol [3-Methylphenol] [1]	<0.14	<1.4	<2.8	<1.4	10
o-Cresol [2-Methylphenol]	<0.1	<1.	<2.1	<1.	10
p-Cresol [4-Methylphenol]	<0.14	<1.4	<2.8	<1.4	10
1,2-Dibromoethane	<1.	<1.	<1.	<1.	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.1	<1.	<2.	<1.	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.094	<0.94	<1.9	<0.94	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.078	<0.78	<1.6	<0.78	10
3,3'-Dichlorobenzidine	<0.18	<1.8	<3.7	<1.8	5
1,2-Dichloroethane	1.1	<0.37	<0.37	0.77	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<0.74	<0.74	<0.74	<0.74	10
Dichloromethane [Methylene chloride]	<1.7	<1.7	<1.7	<1.7	20
1,2-Dichloropropane	<0.56	<0.56	<0.56	<0.56	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.3	<1.3	<1.3	<1.3	10
2,4-Dimethylphenol	<0.19	<1.9	<3.8	<1.9	10
Di-n-Butyl phthalate	<1.4	<14.	<29.	<14.	10
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	<7.5	<7.5	<7.5	<7.5	---
Ethylbenzene	<0.39	<0.39	<0.39	<0.39	10
Ethylene Glycol	<1200.	<1200.	<1200.	<1200.	---
Fluoride	370.	280.	<1000.	560.	500
Hexachlorobenzene	<0.097	<0.97	<1.9	<0.97	5
Hexachlorobutadiene	<0.1	<1.	<2.1	<1.	10
Hexachlorocyclopentadiene	<0.22	<2.2	<4.4	<2.2	10
Hexachloroethane	<0.1	<1.	<2.	<1.	20
4,4'-Isopropylidenediphenol (bisphenol A)	<5.2	<1.	<1.1	<1.	1
Methyl ethyl ketone	<8.3	<8.3	<8.3	<8.3	50
Methyl tert-butyl ether (MTBE)	<1.4	<1.4	<1.4	<1.4	---
Nitrobenzene	<0.074	<0.74	<1.5	<0.74	10
N-Nitrosodiethylamine	<0.54	<5.4	<11.	<5.4	20
N-Nitroso-di-n-butylamine	<0.52	<5.2	<10.	<5.2	20
Nonylphenol	<12.	<2.4	<2.6	<2.5	333
Pentachlorobenzene	<0.27	<2.7	<5.3	<2.7	20
Pentachlorophenol	<0.2	<2.	<4.	<2.	5
Phenanthrene	<0.13	<1.3	<2.7	<1.3	10
Polychlorinated biphenyls (PCBs) (**)	<0.076	<0.066	<0.073	<0.066	0.2
Pyridine	<1.4	<14.	<29.	<14.	20
1,2,4,5-Tetrachlorobenzene	<0.096	<0.96	<1.9	<0.96	20

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1,2,2-Tetrachloroethane	<0.47	<0.47	<0.47	<0.47	10
Tetrachloroethene [Tetrachloroethylene]	<0.66	<0.66	<0.66	<0.66	10
Toluene	<0.48	<0.48	<0.48	<0.48	10
1,1,1-Trichloroethane	<0.59	<0.59	<0.59	<0.59	10
1,1,2-Trichloroethane	<0.41	<0.41	<0.41	<0.41	10
Trichloroethene [Trichloroethylene]	<1.5	<1.5	<1.5	<1.5	10
2,4,5-Trichlorophenol	<0.14	<1.4	<2.9	<1.4	50
TTHM (Total trihalomethanes)	6.2	9.1	5.5	5.1	10
Vinyl chloride	<0.43	<0.43	<0.43	<0.43	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 "<".

[1] Reported under 625.1; laboratory accreditation for 8270.

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) N/A

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.: **001**

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
	7-Apr-25	14-Apr-25	21-Apr-25	28-Apr-25	
Tributyltin (µg/L)	N/A	N/A	N/A	N/A	0.010
Enterococci (cfu or MPN/100 mL)	<10	<10	<10	<10	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)*
			15-Apr-25	22-Apr-25	22-May-25	27-May-25	
Bromide	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.13	-	-	-	400
Color (PCU)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10.	-	-	-	—
Nitrate-Nitrite (as N)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<0.039	-	-	-	—
Sulfide (as S)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.029	-	-	-	—
Sulfite (as SO ₃)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<DL	<DL	2.0	<DL	—
Surfactants	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.21	-	-	-	—
Boron, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.13	-	-	-	20
Cobalt, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00047	-	-	-	0.3
Iron, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.1	-	-	-	7
Magnesium, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27.	-	-	-	20
Manganese, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.047	-	-	-	0.5
Molybdenum, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.003	-	-	-	1
Tin, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.013	-	-	-	5
Titanium, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.0025	-	-	-	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
<input type="checkbox"/> Adhesives and Sealants		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Aluminum Forming	467	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Auto and Other Laundries		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Battery Manufacturing	461	<input type="checkbox"/> Yes	No	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Coal Mining	434	No	No	No	No
<input type="checkbox"/> Coil Coating	465	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Copper Forming	468	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Electric and Electronic Components	469	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Electroplating	413	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Explosives Manufacturing	457	No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Foundries		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Gum and Wood Chemicals - Subparts A,B,C,E	454	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No	No
<input type="checkbox"/> Gum and Wood Chemicals - Subparts D,F	454	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Inorganic Chemicals Manufacturing	415	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Iron and Steel Manufacturing	420	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Leather Tanning and Finishing	425	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Mechanical Products Manufacturing		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Nonferrous Metals Manufacturing	421,471	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Ore Mining - Subpart B	440	No	<input type="checkbox"/> Yes	No	No
<input checked="" type="checkbox"/> Organic Chemicals Manufacturing	414	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes
<input type="checkbox"/> Paint and Ink Formulation	446,447	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Pesticides	455	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Petroleum Refining	419	<input type="checkbox"/> Yes	No	No	No
<input type="checkbox"/> Pharmaceutical Preparations	439	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Photographic Equipment and Supplies	459	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Plastic and Synthetic Materials Manufacturing	414	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Plastic Processing	463	<input type="checkbox"/> Yes	No	No	No
<input type="checkbox"/> Porcelain Enameling	466	No	No	No	No
<input type="checkbox"/> Printing and Publishing		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subpart C	430	<input type="checkbox"/> *	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts F, K	430	<input type="checkbox"/> *	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> *
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> *
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts I, J, L	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subpart E	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *
<input type="checkbox"/> Rubber Processing	428	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Soap and Detergent Manufacturing	417	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Steam Electric Power Plants	423	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
<input type="checkbox"/> Textile Mills (Not Subpart C)	410	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Timber Products Processing	429	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> 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)*	MAL (µg/L)
	13-May-25	22-Apr-25	29-Apr-25	6-May-25	
Acrolein	<11.	<11.	<11.	<11.	50
Acrylonitrile	<14.	<14.	<14.	<14.	50
Benzene	<0.46	<0.46	<0.46	<0.46	10
Bromoform	4.1	8.5	5.5	5.1	10
Carbon tetrachloride	<0.9	<0.9	<0.9	<0.9	2
Chlorobenzene	<0.46	<0.46	<0.46	<0.46	10
Chlorodibromomethane	1.4	<0.55	<0.55	<0.55	10
Chloroethane	<2.	<2.	<2.	<2.	50
2-Chloroethylvinyl ether	<0.75	<75.	<0.75	<0.75	10
Chloroform	0.7	0.56	<0.46	<0.46	10
Dichlorobromomethane [Bromodichloromethane]	<0.55	<0.55	<0.55	<0.55	10
1,1-Dichloroethane	<0.64	<0.64	<0.64	<0.64	10
1,2-Dichloroethane	1.1	<0.37	<0.37	0.77	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<0.74	<0.74	<0.74	<0.74	10
1,2-Dichloropropane	<0.56	<0.56	<0.56	<0.56	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.3	<1.3	<1.3	<1.3	10
Ethylbenzene	<0.39	<0.39	<0.39	<0.39	10
Methyl bromide [Bromomethane]	<1.4	<1.4	<1.4	<1.4	50
Methyl chloride [Chloromethane]	<2.	<2.	<2.	<2.	50
Methylene chloride [Dichloromethane]	<1.7	<1.7	<1.7	<1.7	20
1,1,2,2-Tetrachloroethane	<0.47	<0.47	<0.47	<0.47	10
Tetrachloroethylene [Tetrachloroethene]	<0.66	<0.66	<0.66	<0.66	10
Toluene	<0.48	<0.48	<0.48	<0.48	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<0.37	<0.37	<0.37	<0.37	10
1,1,1-Trichloroethane	<0.59	<0.59	<0.59	<0.59	10
1,1,2-Trichloroethane	<0.41	<0.41	<0.41	<0.41	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Trichloroethylene [Trichloroethene]	<1.5	<1.5	<1.5	<1.5	10
Vinyl chloride	<0.43	<0.43	<0.43	<0.43	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)*	MAL (µg/L)
	15-Apr-25	22-Apr-25	29-Apr-25	6-May-25	
2-Chlorophenol	<0.076	<0.76	<1.5	<0.76	10
2,4-Dichlorophenol	<0.14	<1.4	<2.8	<1.4	10
2,4-Dimethylphenol	<0.19	<1.9	<3.8	<1.9	10
4,6-Dinitro-o-cresol	<1.	<10.	<20.	<10.	50
2,4-Dinitrophenol	<0.31	<3.1	<6.2	<3.1	50
2-Nitrophenol	<0.14	<1.4	<2.7	<1.4	20
4-Nitrophenol	<0.44	<4.4	<8.8	<4.4	50
p-Chloro-m-cresol	<0.1	<1.	<2.1	<1.	10
Pentachlorophenol	<0.2	<2.	<4.	<2.	5
Phenol	<1.1	<11.	<23.	<11.	10
2,4,6-Trichlorophenol	<0.23	<2.3	<4.6	<2.3	10

* Indicate units if different from µg/L.

Table 10 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)
	15-Apr-25	22-Apr-25	29-Apr-25	6-May-25	
Acenaphthene	<0.11	<1.1	<2.1	<1.1	10
Acenaphthylene	<0.1	<1.	<2.	<1.	10
Anthracene	<0.094	<0.94	<1.9	<0.94	10
Benzidine	<0.45	<4.5	<8.9	<4.5	50
Benzo(a)anthracene	<0.082	<0.82	<1.6	<0.82	5
Benzo(a)pyrene	<0.07	<0.7	<1.4	<0.7	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.066	<0.66	<1.3	<0.66	10
Benzo(ghi)perylene	<0.035	<0.35	<0.69	<0.35	20
Benzo(k)fluoranthene	<0.047	<0.47	<0.95	<0.47	5
Bis(2-chloroethoxy)methane	<0.097	<0.97	<1.9	<0.97	10
Bis(2-chloroethyl)ether	<0.21	<2.1	<4.3	<2.1	10
Bis(2-chloroisopropyl)ether	<0.13	<1.3	<2.6	<1.3	10
Bis(2-ethylhexyl)phthalate	<1.4	<14.	<29.	<14.	10
4-Bromophenyl phenyl ether	<0.1	<1.	<2.	<1.	10
Butylbenzyl phthalate	<1.4	<14.	<29.	<14.	10
2-Chloronaphthalene	<0.38	<3.8	<7.6	<3.8	10
4-Chlorophenyl phenyl ether	<0.13	<1.3	<2.6	<1.3	10
Chrysene	<0.082	<0.82	<1.6	<0.82	5
Dibenzo(a,h)anthracene	<0.051	<0.51	<1.	<0.51	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.094	<0.94	<1.9	<0.94	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.1	<1.	<2.	<1.	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.078	<0.78	<1.6	<0.78	10
3,3'-Dichlorobenzidine	<0.18	<1.8	<3.7	<1.8	5
Diethyl phthalate	<1.4	<14.	<29.	<14.	10
Dimethyl phthalate	<1.4	<14.	<29.	<14.	10
Di-n-butyl phthalate	<1.4	<14.	<29.	<14.	10
2,4-Dinitrotoluene	<0.2	<2.	<4.1	<2.	10
2,6-Dinitrotoluene	<0.12	<1.2	<2.3	<1.2	10
Di-n-octyl phthalate	<1.4	<14.	<29.	<14.	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.29	<2.9	<5.7	<2.9	20
Fluoranthene	<0.088	<0.88	<1.8	<0.88	10
Fluorene	<0.095	<0.95	<1.9	<0.95	10
Hexachlorobenzene	<0.097	<0.97	<1.9	<0.97	5
Hexachlorobutadiene	<0.1	<1.	<2.1	<1.	10
Hexachlorocyclopentadiene	<0.22	<2.2	<4.4	<2.2	10
Hexachloroethane	<0.1	<1.	<2.	<1.	20
Indeno(1,2,3-cd)pyrene	<0.1	<1.	<2.	<1.	5
Isophorone	<0.11	<1.1	<2.1	<1.1	10
Naphthalene	<0.094	<0.94	<1.9	<0.94	10
Nitrobenzene	<0.074	<0.74	<1.5	<0.74	10
N-Nitrosodimethylamine	<0.1	<1.	<2.	<1.	50
N-Nitrosodi-n-propylamine	<0.12	<1.2	<2.4	<1.2	20
N-Nitrosodiphenylamine	<0.14	<1.4	<2.9	<1.4	20
Phenanthrene	<0.13	<1.3	<2.7	<1.3	10
Pyrene	<0.085	<0.85	<1.7	<0.85	10
1,2,4-Trichlorobenzene	<0.077	<0.77	<1.5	<0.77	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)
	15-Apr-25	22-Apr-25	29-Apr-25	6-May-25	
Aldrin	<0.0063	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.0031	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.0063	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.017	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.013	-	-	-	0.05
Chlordane	<0.13	-	-	-	0.2
4,4'-DDT	<0.013	-	-	-	0.02
4,4'-DDE	<0.0063	-	-	-	0.1
4,4'-DDD	<0.013	-	-	-	0.1

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
Dieldrin	<0.0031	-	-	-	0.02
Endosulfan I (alpha)	<0.0063	-	-	-	0.01
Endosulfan II (beta)	<0.0063	-	-	-	0.02
Endosulfan sulfate	<0.028	-	-	-	0.1
Endrin	<0.013	-	-	-	0.02
Endrin aldehyde	<0.03	-	-	-	0.1
Heptachlor	<0.0084	-	-	-	0.01
Heptachlor epoxide	<0.0063	-	-	-	0.01
PCB 1242	<0.061	<0.052	<0.058	<0.052	0.2
PCB 1254	<0.076	<0.066	<0.073	<0.066	0.2
PCB 1221	<0.061	<0.052	<0.058	<0.052	0.2
PCB 1232	<0.061	<0.052	<0.058	<0.052	0.2
PCB 1248	<0.061	<0.052	<0.058	<0.052	0.2
PCB 1260	<0.076	<0.066	<0.073	<0.066	0.2
PCB 1016	<0.061	<0.052	<0.058	<0.052	0.2
Toxaphene	<0.39	-	-	-	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 (Ronnel) 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/ASamples 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
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
		15-Apr-25	22-Apr-25	29-Apr-25	6-May-25	
Vanadium, total	7440-62-2	4.8	-	-	-	200.8
Diphenyl ether	101-84-8	<0.091	2.6	<1.8	<0.91	625.1
2-Nitrotoluene	88-72-2	-	-	-	<0.2	8330B
3-Nitrotoluene	99-08-1	-	-	-	<0.2	8330B
4-Nitrotoluene	99-99-0	-	-	-	<0.2	8330B
1-Chlorobutane	109-69-3	-	-	-	-	-
1-Hexene	592-41-6	-	-	-	-	[1]
Toluenediamine	25376-45-8	-	-	-	-	[1]
[1] No methods in TCEQ fields of accreditation.						

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 1 for Outfall No.: 003

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	21-Apr-25	5-Apr-25	23-Apr-25	May 2-23, 2025 (DO)
BOD (5-day)	6.	-	-	-
CBOD (5-day)	<6.	-	-	-
Chemical oxygen demand	8.	-	-	-
Total organic carbon	5.6	-	-	-
Dissolved oxygen	-	-	-	1.98, 2.01, 3.6, 3.98, 1.78, 1.91, 2.85, 2.99
Ammonia nitrogen	0.059	-	-	-
Total suspended solids	13.	-	-	-
Nitrate nitrogen	0.51	-	-	-
Total organic nitrogen	2.1	-	-	-
Total phosphorus	0.1	-	-	-
Oil and grease	<1.6	-	-	-
Total residual chlorine	<DL	-	-	-
Total dissolved solids	560.	-	-	-
Sulfate	200.	-	-	-
Chloride	48.	-	-	-
Fluoride	0.9	-	-	-
Total alkalinity (mg/L as CaCO ₃)	75.	-	-	-
Temperature (°F)	71.6	-	-	-
pH (standard units)	8.03	7.63	7.69	-

Table 2 for Outfall No.: **003**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)
	4/21/25				
Aluminum, total	750.	-	-	-	2.5
Antimony, total	<1.1	-	-	-	5
Arsenic, total	2.4	-	-	-	0.5
Barium, total	68.	-	-	-	3
Beryllium, total	<0.38	-	-	-	0.5
Cadmium, total	<0.26	-	-	-	1
Chromium, total	3.6	-	-	-	3
Chromium, hexavalent	<2.	-	-	-	3
Chromium, trivalent	3.6	-	-	-	N/A
Copper, total	4.6	-	-	-	2
Cyanide, available	<0.79	-	-	-	2/10
Lead, total	4.2	-	-	-	0.5
Mercury, total	0.0024	-	-	-	0.005/0.0005
Nickel, total	1.2	-	-	-	2
Selenium, total	0.82	-	-	-	5
Silver, total	<0.35	-	-	-	0.5
Thallium, total	<0.22	-	-	-	0.5
Zinc, total	46.	-	-	-	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.: **003**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)*
	21-Apr-25				
Acrylonitrile	<14.	-	-	-	50
Anthracene	<0.094	-	-	-	10
Benzene	<0.46	-	-	-	10
Benzidine	<0.45	-	-	-	50
Benzo(a)anthracene	<0.082	-	-	-	5
Benzo(a)pyrene	<0.07	-	-	-	5
Bis(2-chloroethyl)ether	<0.21	-	-	-	10
Bis(2-ethylhexyl)phthalate	<1.4	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<0.55	-	-	-	10
Bromoform	<0.63	-	-	-	10
Carbon tetrachloride	<0.9	-	-	-	2
Chlorobenzene	<0.46	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<0.55	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Chloroform	<0.46	-	-	-	10
Chrysene	0.092	-	-	-	5
m-Cresol [3-Methylphenol] [1]	<0.14	-	-	-	10
o-Cresol [2-Methylphenol]	<0.1	-	-	-	10
p-Cresol [4-Methylphenol]	<0.14	-	-	-	10
1,2-Dibromoethane	<1.	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.1	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.094	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.078	-	-	-	10
3,3'-Dichlorobenzidine	<0.18	-	-	-	5
1,2-Dichloroethane	<0.37	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<0.74	-	-	-	10
Dichloromethane [Methylene chloride]	<1.7	-	-	-	20
1,2-Dichloropropane	<0.56	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.3	-	-	-	10
2,4-Dimethylphenol	<0.19	-	-	-	10
Di-n-Butyl phthalate	<1.4	-	-	-	10
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	<7.5	-	-	-	---
Ethylbenzene	<0.39	-	-	-	10
Ethylene Glycol	<1200.	-	-	-	---
Fluoride	900.	-	-	-	500
Hexachlorobenzene	<0.097	-	-	-	5
Hexachlorobutadiene	<0.1	-	-	-	10
Hexachlorocyclopentadiene	<0.22	-	-	-	10
Hexachloroethane	<0.1	-	-	-	20
4,4'-Isopropylidenediphenol (bisphenol A)	<1.	-	-	-	1
Methyl ethyl ketone	<8.3	-	-	-	50
Methyl tert-butyl ether (MTBE)	<1.4	-	-	-	---
Nitrobenzene	<0.074	-	-	-	10
N-Nitrosodiethylamine	<0.54	-	-	-	20
N-Nitroso-di-n-butylamine	<0.51	-	-	-	20
Nonylphenol	<2.4	-	-	-	333
Pentachlorobenzene	<0.27	-	-	-	20
Pentachlorophenol	<0.2	-	-	-	5
Phenanthrene	<0.13	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.066	-	-	-	0.2
Pyridine	<1.4	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<0.096	-	-	-	20
1,1,2,2-Tetrachloroethane	<0.47	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Tetrachloroethene [Tetrachloroethylene]	<0.66	-	-	-	10
Toluene	<0.48	-	-	-	10
1,1,1-Trichloroethane	<0.59	-	-	-	10
1,1,2-Trichloroethane	<0.41	-	-	-	10
Trichloroethene [Trichloroethylene]	<1.5	-	-	-	10
2,4,5-Trichlorophenol	<0.14	-	-	-	50
TTHM (Total trihalomethanes)	<0.63	-	-	-	10
Vinyl chloride	<0.43	-	-	-	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 "<".

[1] Reported under 625.1; laboratory accreditation for 8270.

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) N/A

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 4 for Outfall No.: **003**

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 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.: **003**

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)*
			21-Apr-25				
Bromide	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.13	-	-	-	400
Color (PCU)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100.	-	-	-	—
Nitrate-Nitrite (as N)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.51	-	-	-	—
Sulfide (as S)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.029	-	-	-	—
Sulfite (as SO ₃)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<DL	-	-	-	—
Surfactants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.05	-	-	-	—
Boron, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.17	-	-	-	20
Cobalt, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00042	-	-	-	0.3
Iron, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.55	-	-	-	7
Magnesium, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.1	-	-	-	20
Manganese, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.05	-	-	-	0.5
Molybdenum, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.0066	-	-	-	1
Tin, total	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.00033	-	-	-	5
Titanium, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.0081	-	-	-	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
<input type="checkbox"/> Adhesives and Sealants		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Aluminum Forming	467	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Auto and Other Laundries		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Battery Manufacturing	461	<input type="checkbox"/> Yes	No	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Coal Mining	434	No	No	No	No
<input type="checkbox"/> Coil Coating	465	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Copper Forming	468	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Electric and Electronic Components	469	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Electroplating	413	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Explosives Manufacturing	457	No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Foundries		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Gum and Wood Chemicals - Subparts A,B,C,E	454	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No	No
<input type="checkbox"/> Gum and Wood Chemicals - Subparts D,F	454	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Inorganic Chemicals Manufacturing	415	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Iron and Steel Manufacturing	420	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Leather Tanning and Finishing	425	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Mechanical Products Manufacturing		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Nonferrous Metals Manufacturing	421,471	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Ore Mining - Subpart B	440	No	<input type="checkbox"/> Yes	No	No
<input type="checkbox"/> Organic Chemicals Manufacturing	414	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes
<input type="checkbox"/> Paint and Ink Formulation	446,447	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Pesticides	455	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Petroleum Refining	419	<input type="checkbox"/> Yes	No	No	No
<input type="checkbox"/> Pharmaceutical Preparations	439	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Photographic Equipment and Supplies	459	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Plastic and Synthetic Materials Manufacturing	414	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Plastic Processing	463	<input type="checkbox"/> Yes	No	No	No
<input type="checkbox"/> Porcelain Enameling	466	No	No	No	No
<input type="checkbox"/> Printing and Publishing		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subpart C	430	<input type="checkbox"/> *	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts F, K	430	<input type="checkbox"/> *	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> *
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> *
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts I, J, L	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subpart E	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *
<input type="checkbox"/> Rubber Processing	428	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Soap and Detergent Manufacturing	417	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Steam Electric Power Plants	423	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
<input type="checkbox"/> Textile Mills (Not Subpart C)	410	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Timber Products Processing	429	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> 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.: **003**

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)
	21-Apr-25				
Acrolein	<11.	-	-	-	50
Acrylonitrile	<14.	-	-	-	50
Benzene	<0.46	-	-	-	10
Bromoform	<0.63	-	-	-	10
Carbon tetrachloride	<0.9	-	-	-	2
Chlorobenzene	<0.46	-	-	-	10
Chlorodibromomethane	<0.55	-	-	-	10
Chloroethane	<2.	-	-	-	50
2-Chloroethylvinyl ether	<0.75	-	-	-	10
Chloroform	<0.46	-	-	-	10
Dichlorobromomethane [Bromodichloromethane]	<0.55	-	-	-	10
1,1-Dichloroethane	<0.64	-	-	-	10
1,2-Dichloroethane	<0.37	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<0.74	-	-	-	10
1,2-Dichloropropane	<0.56	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.3	-	-	-	10
Ethylbenzene	<0.39	-	-	-	10
Methyl bromide [Bromomethane]	<1.4	-	-	-	50
Methyl chloride [Chloromethane]	<2.	-	-	-	50
Methylene chloride [Dichloromethane]	<1.7	-	-	-	20
1,1,2,2-Tetrachloroethane	<0.47	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<0.66	-	-	-	10
Toluene	<0.48	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<0.37	-	-	-	10
1,1,1-Trichloroethane	<0.59	-	-	-	10
1,1,2-Trichloroethane	<0.41	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Trichloroethylene [Trichloroethene]	<1.5	-	-	-	10
Vinyl chloride	<0.43	-	-	-	10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: **003**

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)
	21-Apr-25				
2-Chlorophenol	<0.076	-	-	-	10
2,4-Dichlorophenol	<0.14	-	-	-	10
2,4-Dimethylphenol	<0.19	-	-	-	10
4,6-Dinitro-o-cresol	<1.	-	-	-	50
2,4-Dinitrophenol	<0.31	-	-	-	50
2-Nitrophenol	<0.14	-	-	-	20
4-Nitrophenol	<0.44	-	-	-	50
p-Chloro-m-cresol	<0.1	-	-	-	10
Pentachlorophenol	<0.2	-	-	-	5
Phenol	<1.1	-	-	-	10
2,4,6-Trichlorophenol	<0.23	-	-	-	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: **003**

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)
	21-Apr-25	-	-	-	
Acenaphthene	<0.11	-	-	-	10
Acenaphthylene	<0.099	-	-	-	10
Anthracene	<0.094	-	-	-	10
Benzidine	<0.45	-	-	-	50
Benzo(a)anthracene	<0.082	-	-	-	5
Benzo(a)pyrene	<0.07	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	0.085	-	-	-	10
Benzo(ghi)perylene	0.065	-	-	-	20
Benzo(k)fluoranthene	<0.047	-	-	-	5
Bis(2-chloroethoxy)methane	<0.097	-	-	-	10
Bis(2-chloroethyl)ether	<0.21	-	-	-	10
Bis(2-chloroisopropyl)ether	<0.13	-	-	-	10
Bis(2-ethylhexyl)phthalate	<1.4	-	-	-	10
4-Bromophenyl phenyl ether	<0.1	-	-	-	10
Butylbenzyl phthalate	<1.4	-	-	-	10
2-Chloronaphthalene	<0.38	-	-	-	10
4-Chlorophenyl phenyl ether	<0.13	-	-	-	10
Chrysene	0.092	-	-	-	5
Dibenzo(a,h)anthracene	<0.051	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.094	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.1	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.078	-	-	-	10
3,3'-Dichlorobenzidine	<0.18	-	-	-	5
Diethyl phthalate	<1.4	-	-	-	10
Dimethyl phthalate	<1.4	-	-	-	10
Di-n-butyl phthalate	<1.4	-	-	-	10
2,4-Dinitrotoluene	<0.2	-	-	-	10
2,6-Dinitrotoluene	<0.12	-	-	-	10
Di-n-octyl phthalate	<1.4	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.29	-	-	-	20
Fluoranthene	<0.088	-	-	-	10
Fluorene	<0.095	-	-	-	10
Hexachlorobenzene	<0.097	-	-	-	5
Hexachlorobutadiene	<0.1	-	-	-	10
Hexachlorocyclopentadiene	<0.22	-	-	-	10
Hexachloroethane	<0.1	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.1	-	-	-	5
Isophorone	<0.11	-	-	-	10
Naphthalene	<0.094	-	-	-	10
Nitrobenzene	<0.074	-	-	-	10
N-Nitrosodimethylamine	<0.1	-	-	-	50
N-Nitrosodi-n-propylamine	<0.12	-	-	-	20
N-Nitrosodiphenylamine	<0.14	-	-	-	20
Phenanthrene	<0.13	-	-	-	10
Pyrene	<0.085	-	-	-	10
1,2,4-Trichlorobenzene	<0.077	-	-	-	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: **003**

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)
	21-Apr-25				
Aldrin	<0.016	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.016	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.017	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.017	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.0088	-	-	-	0.05
Chlordane	<0.2	-	-	-	0.2
4,4'-DDT	<0.018	-	-	-	0.02
4,4'-DDE	<0.016	-	-	-	0.1
4,4'-DDD	<0.018	-	-	-	0.1

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
Dieldrin	<0.017	-	-	-	0.02
Endosulfan I (alpha)	<0.019	-	-	-	0.01
Endosulfan II (beta)	<0.018	-	-	-	0.02
Endosulfan sulfate	<0.015	-	-	-	0.1
Endrin	<0.017	-	-	-	0.02
Endrin aldehyde	<0.017	-	-	-	0.1
Heptachlor	<0.028	-	-	-	0.01
Heptachlor epoxide	<0.018	-	-	-	0.01
PCB 1242	<0.052	-	-	-	0.2
PCB 1254	<0.066	-	-	-	0.2
PCB 1221	<0.052	-	-	-	0.2
PCB 1232	<0.052	-	-	-	0.2
PCB 1248	<0.052	-	-	-	0.2
PCB 1260	<0.066	-	-	-	0.2
PCB 1016	<0.052	-	-	-	0.2
Toxaphene	<0.34	-	-	-	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 (Ronnel) 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/ASamples 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
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.: 003Samples 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
		21-Apr-25				
Vanadium, total	7440-62-2	14	-	-	-	200.8

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 1 for Outfall No.: 004

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
	21-Apr-25	5-Apr-25	2-May-25	May 2-23, 2025 (DO)
BOD (5-day)	<6.	-	-	-
CBOD (5-day)	<6.	-	-	-
Chemical oxygen demand	13.	-	-	-
Total organic carbon	4.9	-	-	-
Dissolved oxygen	-	-	-	3.27, 3.18, 3.89, 4.01, 3.46, 3.32, 3.53, 3.48
Ammonia nitrogen	0.088	-	-	-
Total suspended solids	37.	-	-	-
Nitrate nitrogen	0.27	-	-	-
Total organic nitrogen	16.	-	-	-
Total phosphorus	0.16	-	-	-
Oil and grease	<1.6	-	-	-
Total residual chlorine	<DL	-	-	-
Total dissolved solids	180.	-	-	-
Sulfate	31.	-	-	-
Chloride	18.	-	-	-
Fluoride	0.43	-	-	-
Total alkalinity (mg/L as CaCO ₃)	53.	-	-	-
Temperature (°F)	73.4	-	-	-
pH (standard units)	-	7.71	8.02	-

Table 2 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)
	21-Apr-25				
Aluminum, total	1200.	-	-	-	2.5
Antimony, total	<1.1	-	-	-	5
Arsenic, total	1.4	-	-	-	0.5
Barium, total	82.	-	-	-	3
Beryllium, total	<0.38	-	-	-	0.5
Cadmium, total	<0.26	-	-	-	1
Chromium, total	3.1	-	-	-	3
Chromium, hexavalent	<2.	-	-	-	3
Chromium, trivalent	3.1	-	-	-	N/A
Copper, total	3.7	-	-	-	2
Cyanide, available	<0.79	-	-	-	2/10
Lead, total	4.1	-	-	-	0.5
Mercury, total	0.0081	-	-	-	0.005/0.0005
Nickel, total	0.76	-	-	-	2
Selenium, total	<0.69	-	-	-	5
Silver, total	<0.35	-	-	-	0.5
Thallium, total	<0.22	-	-	-	0.5
Zinc, total	53.	-	-	-	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.: **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)*
	21-Apr-25				
Acrylonitrile	<14.	-	-	-	50
Anthracene	<0.094	-	-	-	10
Benzene	<0.46	-	-	-	10
Benzidine	<0.45	-	-	-	50
Benzo(a)anthracene	<0.082	-	-	-	5
Benzo(a)pyrene	<0.07	-	-	-	5
Bis(2-chloroethyl)ether	<0.21	-	-	-	10
Bis(2-ethylhexyl)phthalate	<1.4	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<0.55	-	-	-	10
Bromoform	0.91	-	-	-	10
Carbon tetrachloride	<0.9	-	-	-	2
Chlorobenzene	<0.46	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<0.55	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Chloroform	<0.46	-	-	-	10
Chrysene	<0.082	-	-	-	5
m-Cresol [3-Methylphenol] [1]	<0.14	-	-	-	10
o-Cresol [2-Methylphenol]	<0.11	-	-	-	10
p-Cresol [4-Methylphenol]	<0.14	-	-	-	10
1,2-Dibromoethane	<1.	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.1	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.094	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.078	-	-	-	10
3,3'-Dichlorobenzidine	<0.18	-	-	-	5
1,2-Dichloroethane	<0.37	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<0.74	-	-	-	10
Dichloromethane [Methylene chloride]	<1.7	-	-	-	20
1,2-Dichloropropane	<0.56	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.3	-	-	-	10
2,4-Dimethylphenol	<0.19	-	-	-	10
Di-n-Butyl phthalate	<1.4	-	-	-	10
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	<7.5	-	-	-	---
Ethylbenzene	<0.39	-	-	-	10
Ethylene Glycol	<1200.	-	-	-	---
Fluoride	430.	-	-	-	500
Hexachlorobenzene	<0.098	-	-	-	5
Hexachlorobutadiene	<0.1	-	-	-	10
Hexachlorocyclopentadiene	<0.22	-	-	-	10
Hexachloroethane	<0.1	-	-	-	20
4,4'-Isopropylidenediphenol (bisphenol A)	<1.	-	-	-	1
Methyl ethyl ketone	<8.3	-	-	-	50
Methyl tert-butyl ether (MTBE)	<1.4	-	-	-	---
Nitrobenzene	<0.074	-	-	-	10
N-Nitrosodiethylamine	<0.54	-	-	-	20
N-Nitroso-di-n-butylamine	<0.52	-	-	-	20
Nonylphenol	<2.5	-	-	-	333
Pentachlorobenzene	<0.27	-	-	-	20
Pentachlorophenol	<0.2	-	-	-	5
Phenanthrene	<0.13	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.066	-	-	-	0.2
Pyridine	<1.4	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<0.096	-	-	-	20
1,1,2,2-Tetrachloroethane	<0.47	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Tetrachloroethene [Tetrachloroethylene]	<0.66	-	-	-	10
Toluene	<0.48	-	-	-	10
1,1,1-Trichloroethane	<0.59	-	-	-	10
1,1,2-Trichloroethane	<0.41	-	-	-	10
Trichloroethene [Trichloroethylene]	<1.5	-	-	-	10
2,4,5-Trichlorophenol	<0.14	-	-	-	50
TTHM (Total trihalomethanes)	0.91	-	-	-	10
Vinyl chloride	<0.43	-	-	-	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 "<".

[1] Reported under 625.1; laboratory accreditation for 8270.

TABLE 4 (Instructions, Pages 58-59)

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

g. 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.

h. Enterococci (discharge to saltwater) N/A

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.

i. 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.: **004**

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 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 [Fenprothrin]					—
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.: **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)*
			21-Apr-25				
Bromide	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.13	-	-	-	400
Color (PCU)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50.	-	-	-	—
Nitrate-Nitrite (as N)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.27	-	-	-	—
Sulfide (as S)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.029	-	-	-	—
Sulfite (as SO ₃)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<DL	-	-	-	—
Surfactants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.05	-	-	-	—
Boron, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.03	-	-	-	20
Cobalt, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00053	-	-	-	0.3
Iron, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.85	-	-	-	7
Magnesium, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.3	-	-	-	20
Manganese, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.056	-	-	-	0.5
Molybdenum, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.0021	-	-	-	1
Tin, total	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.00033	-	-	-	5
Titanium, total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.011	-	-	-	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
<input type="checkbox"/> Adhesives and Sealants		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Aluminum Forming	467	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Auto and Other Laundries		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Battery Manufacturing	461	<input type="checkbox"/> Yes	No	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Coal Mining	434	No	No	No	No
<input type="checkbox"/> Coil Coating	465	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Copper Forming	468	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Electric and Electronic Components	469	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Electroplating	413	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Explosives Manufacturing	457	No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Foundries		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Gum and Wood Chemicals - Subparts A,B,C,E	454	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No	No
<input type="checkbox"/> Gum and Wood Chemicals - Subparts D,F	454	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Inorganic Chemicals Manufacturing	415	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Iron and Steel Manufacturing	420	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Leather Tanning and Finishing	425	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Mechanical Products Manufacturing		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Nonferrous Metals Manufacturing	421,471	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Ore Mining - Subpart B	440	No	<input type="checkbox"/> Yes	No	No
<input type="checkbox"/> Organic Chemicals Manufacturing	414	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Paint and Ink Formulation	446,447	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Pesticides	455	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Petroleum Refining	419	<input type="checkbox"/> Yes	No	No	No
<input type="checkbox"/> Pharmaceutical Preparations	439	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Photographic Equipment and Supplies	459	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Plastic and Synthetic Materials Manufacturing	414	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Plastic Processing	463	<input type="checkbox"/> Yes	No	No	No
<input type="checkbox"/> Porcelain Enameling	466	No	No	No	No
<input type="checkbox"/> Printing and Publishing		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subpart C	430	<input type="checkbox"/> *	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts F, K	430	<input type="checkbox"/> *	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> *
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> *
<input type="checkbox"/> Pulp and Paperboard Mills - Subparts I, J, L	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *	<input type="checkbox"/> Yes
<input type="checkbox"/> Pulp and Paperboard Mills - Subpart E	430	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> *
<input type="checkbox"/> Rubber Processing	428	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Soap and Detergent Manufacturing	417	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No
<input type="checkbox"/> Steam Electric Power Plants	423	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No	No
<input type="checkbox"/> Textile Mills (Not Subpart C)	410	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
<input type="checkbox"/> Timber Products Processing	429	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> 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.: **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)
	21-Apr-25				
Acrolein	<11.	-	-	-	50
Acrylonitrile	<14.	-	-	-	50
Benzene	<0.46	-	-	-	10
Bromoform	0.91	-	-	-	10
Carbon tetrachloride	<0.9	-	-	-	2
Chlorobenzene	<0.46	-	-	-	10
Chlorodibromomethane	<0.55	-	-	-	10
Chloroethane	<2.	-	-	-	50
2-Chloroethylvinyl ether	<0.75	-	-	-	10
Chloroform	<0.46	-	-	-	10
Dichlorobromomethane [Bromodichloromethane]	<0.55	-	-	-	10
1,1-Dichloroethane	<0.64	-	-	-	10
1,2-Dichloroethane	<0.37	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<0.74	-	-	-	10
1,2-Dichloropropane	<0.56	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.3	-	-	-	10
Ethylbenzene	<0.39	-	-	-	10
Methyl bromide [Bromomethane]	<1.4	-	-	-	50
Methyl chloride [Chloromethane]	<2.	-	-	-	50
Methylene chloride [Dichloromethane]	<1.7	-	-	-	20
1,1,2,2-Tetrachloroethane	<0.47	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<0.66	-	-	-	10
Toluene	<0.48	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<0.37	-	-	-	10
1,1,1-Trichloroethane	<0.59	-	-	-	10
1,1,2-Trichloroethane	<0.41	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Trichloroethylene [Trichloroethene]	<1.5	-	-	-	10
Vinyl chloride	<0.43	-	-	-	10

* Indicate units if different from µg/L.

Table 9 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)
	21-Apr-25				
2-Chlorophenol	<0.076	-	-	-	10
2,4-Dichlorophenol	<0.14	-	-	-	10
2,4-Dimethylphenol	<0.19	-	-	-	10
4,6-Dinitro-o-cresol	<1.	-	-	-	50
2,4-Dinitrophenol	<0.31	-	-	-	50
2-Nitrophenol	<0.14	-	-	-	20
4-Nitrophenol	<0.44	-	-	-	50
p-Chloro-m-cresol	<0.1	-	-	-	10
Pentachlorophenol	<0.2	-	-	-	5
Phenol	<1.1	-	-	-	10
2,4,6-Trichlorophenol	<0.23	-	-	-	10

* Indicate units if different from µg/L.

Table 10 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)
	21-Apr-25				
Acenaphthene	<0.11	-	-	-	10
Acenaphthylene	<0.1	-	-	-	10
Anthracene	<0.094	-	-	-	10
Benzidine	<0.45	-	-	-	50
Benzo(a)anthracene	<0.082	-	-	-	5
Benzo(a)pyrene	<0.07	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.067	-	-	-	10
Benzo(ghi)perylene	<0.035	-	-	-	20
Benzo(k)fluoranthene	<0.047	-	-	-	5
Bis(2-chloroethoxy)methane	<0.098	-	-	-	10
Bis(2-chloroethyl)ether	<0.21	-	-	-	10
Bis(2-chloroisopropyl)ether	<0.13	-	-	-	10
Bis(2-ethylhexyl)phthalate	<1.4	-	-	-	10
4-Bromophenyl phenyl ether	<0.1	-	-	-	10
Butylbenzyl phthalate	<1.4	-	-	-	10
2-Chloronaphthalene	<0.38	-	-	-	10
4-Chlorophenyl phenyl ether	<0.13	-	-	-	10
Chrysene	<0.082	-	-	-	5
Dibenzo(a,h)anthracene	<0.051	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.094	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.1	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.078	-	-	-	10
3,3'-Dichlorobenzidine	<0.18	-	-	-	5
Diethyl phthalate	<1.4	-	-	-	10
Dimethyl phthalate	<1.4	-	-	-	10
Di-n-butyl phthalate	<1.4	-	-	-	10
2,4-Dinitrotoluene	<0.21	-	-	-	10
2,6-Dinitrotoluene	<0.12	-	-	-	10
Di-n-octyl phthalate	<1.4	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.29	-	-	-	20
Fluoranthene	<0.089	-	-	-	10
Fluorene	<0.095	-	-	-	10
Hexachlorobenzene	<0.098	-	-	-	5
Hexachlorobutadiene	<0.1	-	-	-	10
Hexachlorocyclopentadiene	<0.22	-	-	-	10
Hexachloroethane	<0.1	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.1	-	-	-	5
Isophorone	<0.11	-	-	-	10
Naphthalene	<0.095	-	-	-	10
Nitrobenzene	<0.074	-	-	-	10
N-Nitrosodimethylamine	<0.1	-	-	-	50
N-Nitrosodi-n-propylamine	<0.12	-	-	-	20
N-Nitrosodiphenylamine	<0.14	-	-	-	20
Phenanthrene	<0.13	-	-	-	10
Pyrene	<0.085	-	-	-	10
1,2,4-Trichlorobenzene	<0.077	-	-	-	10

* Indicate units if different from µg/L.

Table 11 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)
	21-Apr-25				
Aldrin	<0.016	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.016	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.017	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.017	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.0088	-	-	-	0.05
Chlordane	<0.2	-	-	-	0.2
4,4'-DDT	<0.018	-	-	-	0.02
4,4'-DDE	<0.016	-	-	-	0.1
4,4'-DDD	<0.018	-	-	-	0.1

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAI (µg/L)
Dieldrin	<0.017	-	-	-	0.02
Endosulfan I (alpha)	<0.019	-	-	-	0.01
Endosulfan II (beta)	<0.018	-	-	-	0.02
Endosulfan sulfate	<0.015	-	-	-	0.1
Endrin	<0.017	-	-	-	0.02
Endrin aldehyde	<0.017	-	-	-	0.1
Heptachlor	<0.028	-	-	-	0.01
Heptachlor epoxide	<0.018	-	-	-	0.01
PCB 1242	<0.052	-	-	-	0.2
PCB 1254	<0.066	-	-	-	0.2
PCB 1221	<0.052	-	-	-	0.2
PCB 1232	<0.052	-	-	-	0.2
PCB 1248	<0.052	-	-	-	0.2
PCB 1260	<0.066	-	-	-	0.2
PCB 1016	<0.052	-	-	-	0.2
Toxaphene	<0.34	-	-	-	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 (Ronnel) 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/ASamples 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
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.: 004Samples 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
		21-Apr-25				
Vanadium, total	7440-62-2	5	-	-	-	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 2. 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: Outfalls 001/003 – 1500 feet; Outfall 004 – 740 feet

- 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 3. Classified Segment (Instructions, Page 80)

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

☒ Yes ☐ No

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.

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 2. 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: N/A

b. Provide the following information for each disposal site:

Disposal site name: City of Houston Sims Bayou South wastewater treatment plant

TCEQ Permit/Registration Number: WQ0010495002

County where disposal site is located: Harris

c. Method of sewage sludge transportation:

☒ truck ☐ train ☐ pipe ☐ other: N/A

TCEQ Hauler Registration Number: Republic Waste Services of Texas Hauling (SWR 84197, RN102268471)

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: Ketjen has Purchase Order 8000357976 with Republic Services for septic cleanout.

Item 3. 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.

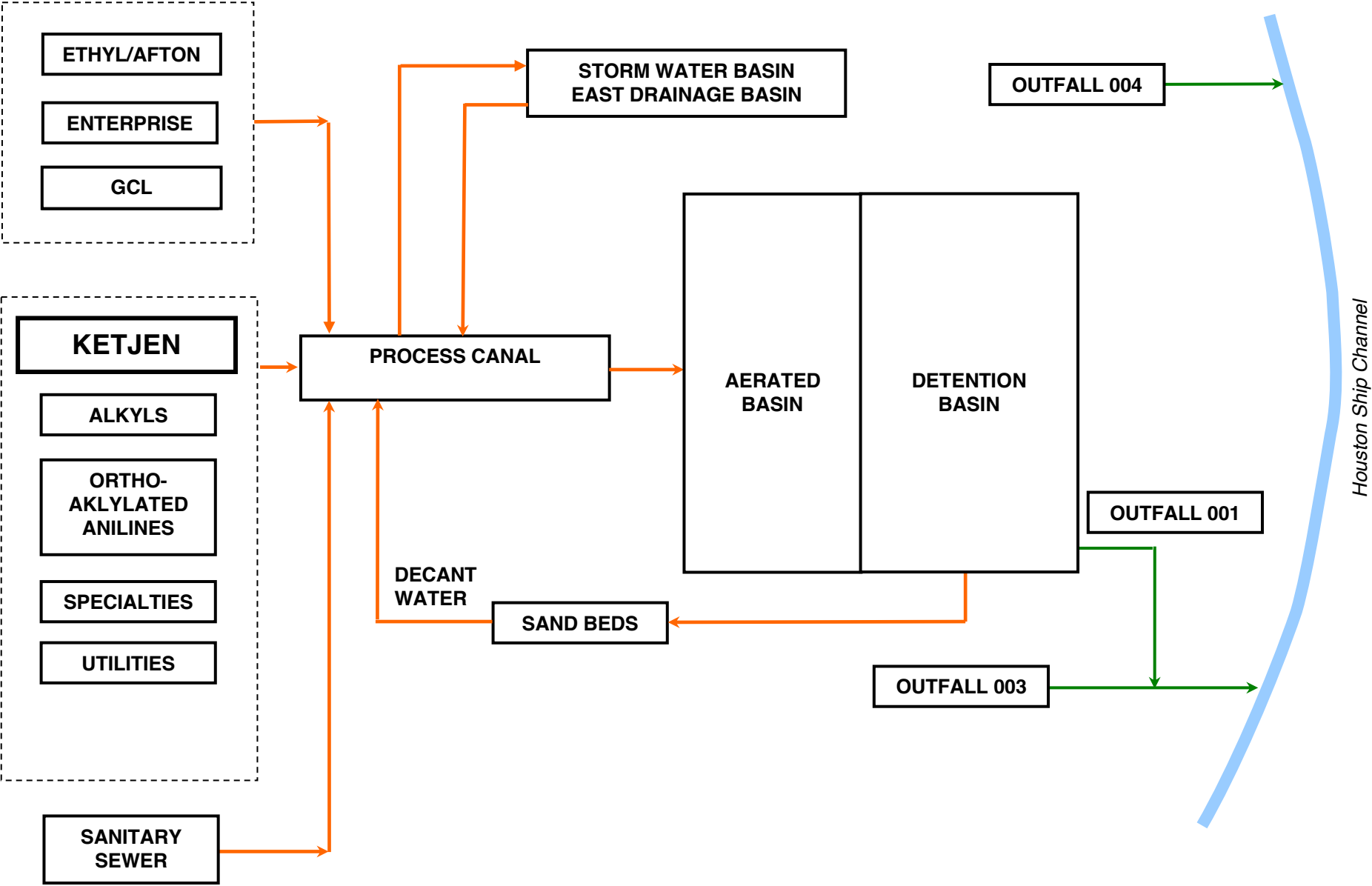
Attachment: N/A

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 2. Outfall Wastewaters

Outfall	Wastewater Source	Producer	% of OCPSP Production	Average (gpd)	
001	Process Wastewater				
	40 CFR 414, Effluent Guidelines, Organic Chemicals, Plastics, and Synthetic Fibers				
	Subpart G - Bulk Organic Chemicals				
	*Alkyl Benzenes (N-propyl benzene, NPBZ)		Ketjen	110,000	
	Total for OCPSP Subpart G			110,000	
	Subpart H - Specialty Organic Chemicals**				
	Alkylated anilines	Alkylation of ortho-toluidine (2-ethyl-6-methylaniline)	Ketjen	9,000	
	Metal alkyls	Hydrometalation or substitution	Ketjen		
	Magnesium alkyls (butylethylmagnesium)	Hydrolysis of magnesium alkyls	Ketjen		
	Lube additives	Chemical addition of maleic anhydride, polyethyleneamine and polyisbutylene; lube additives blending	Afton		
	Lead alkyl blending (process area stormwater, spills)	Blending	Ethyl	2,000	
	Ground water recovery		Ethyl		
	Total for OCPSP Subpart H			99%	11,000
	Process area stormwater (87% of process area related to OCPSF)				824,760
	Total for OCPSP (all Subparts)				945,760
	Inorganic Chemicals - Products listed below not covered by effluent guidelines				
	Aluminum powdering (by dry atomization)		Ketjen		0
	Potassium carbonate (terminal operations)		Enterprise		5,000
	Process area storm water (13% of process area related to inorganic production)				123,240
	Total for inorganic chemicals				128,240
	Utilities				
	Utilities area				1,150,000
	MP-1 (alkylated anilines)				
	Total for utilities				1,150,000
	Domestic Wastewater				20,000
	Total dry weather flow				1,296,000
	Total process area stormwater				948,000
Two-year maximum monthly average flow (June 2018 - May 2020)				2,244,000	
Other Stormwater (more extreme storm events)				3,920,000	
Total Permitted Flow				6,164,000	
003	Utility wastewater, wash water, non-process area stormwater, certain non-stormwater discharges			Intermittent and flow variable	
004	Utility wastewater, non-process area stormwater, certain non-stormwater discharges			Intermittent and flow variable	
*Product groups					
**Where a chemical is not included in another subpart, it is classified as Subpart H.					

Figure 1. Wastewater Flow Diagram



ATTACHMENT T-1

KETJEN LIMITED LIABILITY COMPANY PASADENA PLANT FACILITY DESCRIPTION

FACILITY HISTORY	2
MATERIALS HANDLED	2
WASTEWATER SYSTEM AND OUTFALLS	3
OUTFALL 001	3
OUTFALL 003	3
OUTFALL 004	4
PROCESS WASTEWATERS	4
UTILITIES	5
STORMWATER	5
OTHER DISCHARGES	6
WASTEWATER TREATMENT UNITS	6
Vacuum Trucks, Vacuum Boxes, Frac Tanks and Other Miscellaneous Containers	7
Tank T-693	7
Volatile Organic Compound (VOC) Water Separators	7
RELATIONSHIP TO SPCC	7
RELATIONSHIP TO RCRA	7
Tanks R-5104 and T-5130	8
In-Process Units	8
TREATMENT CHEMICALS	8
WATER SUPPLY	9
EFFLUENT GUIDELINES	9

TABLE 1. RAW MATERIALS, INTERMEDIATES, PRODUCTS, AND OTHER MATERIALS

TABLE 2. OUTFALL WASTEWATERS

FIGURE 1. WATER FLOW DIAGRAM

KETJEN LIMITED LIABILITY COMPANY PASADENA PLANT FACILITY DESCRIPTION

This document describes Ketjen Limited Liability Company's (Ketjen) Pasadena Plant in relation to its wastewater discharge permit, TPDES WQ0000492000. This description covers outfall locations, discharges through the outfalls, wastewater and stormwater management, wastewater solids management, applicability of national effluent guidelines, and applicability of other regulations (SPCC and RCRA).

FACILITY HISTORY

Chemical manufacturing operations began at the site in 1952 with later changes in operations and on-site companies. Companies presently operating on-site are Ketjen Limited Liability Company, Afton Chemical Corporation, Ethyl Corporation, Enterprise Operating LLC, and GCL Solar Materials US, LLC. The relationship between Ketjen, who holds TPDES permit WQ0000492000, and the other on-site facilities¹ is controlled by contractual agreements.

Ethyl Corporation has a wastewater permit (TPDES WQ0003890000), as does Enterprise (TPDES WQ0004867000). Ethyl treats some of its process wastewater. Effluent from this pretreatment system is then piped to the wastewater treatment system owned by Ketjen, which discharges treated wastewater to the Houston Ship Channel (HSC) via Ketjen's Outfall 001. Process wastewaters from GCL and Afton facilities are treated by Ketjen and discharged through Ketjen's Outfall 001. Process wastewater from Enterprise's facilities is not discharged through Ketjen's Outfall 001.

Both Ketjen and Ethyl have stormwater outfalls within their TPDES permits. Besides discharging stormwater to their own outfalls, both Ethyl and Ketjen discharge stormwater to each other's outfalls. Ketjen's Outfall 003 receives stormwater from Enterprise, Afton, and GCL.

Effective January 1, 2024, Albemarle Corporation's Pasadena Plant became part of a wholly owned subsidiary named Ketjen Limited Liability Company. Ownership of wastewater permit TPDES WQ0000492000 was transferred from Albemarle Corporation to Ketjen Limited Liability Company.

MATERIALS HANDLED

A list of materials handled by each company is provided in Table 1. The list includes raw materials, intermediates, products, and other materials handled on-site.

¹ Ketjen Limited Liability Company, 2500 North South Street, P.O. Box 2500, Pasadena, TX 77501-2500
Ethyl Corporation, 1000 North South Street, P.O. Box 472, Pasadena, TX 77501-0472
Afton Lube and Fuel Additives Plant, 1000 North South Street, Suite A, Pasadena, TX 77503
GCL Solar Materials US, LLC, 3000 North South Street, Pasadena, TX 77503
Enterprise Products Operating LLC, 1500 North South Street, Pasadena, TX 77501

WASTEWATER SYSTEM AND OUTFALLS

There are three outfalls authorized by the TPDES permit (001, 003, 004). Outfall 001 is the process wastewater outfall and Outfalls 003 and 004 are primarily storm water outfalls. A wastewater flow diagram is shown in Figure 1. Wastewaters that are discharged from the outfalls are listed in Table 2.

Outfall 001

Outfall 001 is the process wastewater outfall and is authorized to discharge treated process wastewater, utility wastewater, treated domestic wastewater, stormwater, and certain non-stormwater discharges. It is located in the northeast portion of the facility and discharges into the Houston Ship Channel Tidal (HSC) in Segment No. 1006 of the San Jacinto River Basin.

Additionally, Ethyl treats some of its wastewater, monitors it as required by its TPDES permit WQ0003890000, and then transfers the treated water to Ketjen for discharge at Ketjen's Outfall 001. This wastewater arises from operation of RCRA-permitted landfills and authorized corrective actions (groundwater recovery). These activities are authorized under Ethyl's Industrial and Hazardous Waste Permit 50156.

Ketjen's Outfall 001 discharges from the Aeration-Detention Basin by gravity through a pipe, which runs under the adjacent Storm Water Holdup Basin, and then into a drainage canal, about 150 feet upstream of Pump Station 1. The drainage canal discharges directly into the HSC in Segment No. 1006 of the San Jacinto River Basin. Typically, the canal drains by gravity into the Ship Channel. When the water level in the Ship Channel is higher than the water in the drainage canal, the gate at the pump station is closed and pumps are used to lift the water over the plant dike and into the Ship Channel.

Outfall 001 is monitored at the flume at the southeast corner of the Aeration-Detention Basin. Flow and pH are continuously monitored at Outfall 001.

Outfall 003

Outfall 003 is authorized to discharge stormwater, utility wastewater, wash water, and certain non-stormwaters. Outfall 003 discharges primarily stormwater that collects outside of the main process areas. It is located in the northeast corner of the facility and discharges into the HSC in Segment No. 1006 of the San Jacinto River Basin.

Outfall 003 is on the same drainage canal through which the effluent from Outfall 001 also flows. Outfall 003 is located upstream of the point where the Outfall 001 effluent enters the canal. The monitoring point for Outfall 003 is at the footbridge across the canal, about 300 feet upstream of Pump Station 1. Occasionally during periods of high rainfall, the discharge from Outfall 001 can backup to the footbridge. At these times, monitoring samples for Outfall 003 may contain some portion of the Outfall 001 discharge. The Outfall 003 sample location has been chosen with the intention to place it as far downstream on the canal as is practical (in order to represent the entire flow from its drainage area) while also minimizing the opportunity for commingling Outfall 003 with the discharge from Outfall 001. It is not practical to

segregate these two flows entirely, and given that Outfall 001 is already monitored upstream of this point, the monitoring location for Outfall 003 (the footbridge) is considered adequate.

The flow from Outfall 003 is estimated by the rational method, that is, by multiplying measured rainfall times a runoff coefficient times the drainage area. The discharge drains by gravity into the HSC whenever the water level in the canal is higher than in the HSC. When the water level in the canal is lower, Pump Station 1 is used.

Outfall 004

Outfall 004 is authorized to discharge stormwater, utility wastewater, and certain non-stormwaters. Outfall 004 is in the northwest corner of the facility, north of the intersection of First Street and South Street, near Pump Station 3. Outfall 004 discharges into the HSC in Segment No. 1007 of the San Jacinto River Basin.

Outfall 004 discharges primarily stormwater that collects outside of the main process areas. In addition to stormwater, other waters may discharge periodically from Outfall 004. These are described later in this document. Like Outfall 003, flow from Outfall 004 is estimated by the rational method. Discharge from Outfall 004 drains by gravity into the HSC whenever the water level in the canal is higher than in the HSC. When the water level in the canal is lower, Pump Station 3 is used.

Process Wastewaters

Process wastewater includes wastewater generated by the manufacturing processes as well as stormwater from process areas that is potentially contaminated. With the exception of some wastewater that is trucked off-site, all of the process wastewater from Ketjen, Ethyl, Afton, and GCL is treated in Ketjen's wastewater treatment system with final discharge through Outfall 001.

Ethyl treats groundwater to remove chlorinated hydrocarbons and discharges the treated effluent to Ketjen's treatment system. Ethyl also treats wastewater contaminated with lead from fuel additive handling, and discharges this treated effluent to Ketjen's treatment system. Both wastewaters are monitored and authorized for discharge under Ethyl's TPDES permit WQ0003890000. Ketjen's TPDES permit WQ0000492000 includes monitoring related to these discharges from Ethyl, specifically 1,2-dichloroethane and chloroethane.

Stormwater runoff from Ethyl's active hazardous waste landfill is collected in the North Solids Area and South Solids Area. Ethyl owns these units, operates the landfill, and these solid waste operations are regulated under Ethyl's hazardous waste permit (Industrial and Hazardous Waste Permit 50156). Water from these areas collects in the northwest corner of the North Solids Area and Ketjen manages this water by routing it to Ketjen's facilities for treatment and discharge through Outfall 001.

Utilities

There are four cooling towers that discharge blowdown to the treatment system. Ketjen operates three cooling towers. Two are for process areas (central cooling tower; MP-1 cooling tower) and the third is for comfort cooling only at the Change House. The fourth cooling tower is owned by Ethyl and operated by Afton. Discharges from these cooling towers are routed to Ketjen's wastewater treatment facility with final discharge through Outfall 001. There are two active boilers on-site. Blowdown from the boilers and demineralizer wastes from boiler water treatment are sent to Ketjen's wastewater treatment system.

Stormwater

Stormwater that collects within process areas is considered process wastewater and is treated in the wastewater treatment system. Stormwater from other areas that may be potentially contaminated may also be routed to the wastewater treatment system. Stormwater collected outside of process areas is considered to have a low potential for contamination and is discharged with treatment through Outfalls 003 and 004. This latter stormwater is generally described as non-process stormwater, although it may include stormwater from some process areas with low contamination potential. Other types of areas that drain to Outfalls 003 and 004 include parking lots, roadways, rail lines, closed waste management units (including closed and capped hazardous waste landfills), equipment storage areas, and undeveloped property. In addition, construction activities may occur anywhere on-site and stormwater during construction would discharge through these outfalls. Stormwater from construction activities involving one or more acres would be authorized by TCEQ's General Permit TXR150000 (for construction activity).

To minimize contact with these stormwater outfalls, chemicals are kept within covered structures, firewalls and curbed areas. The following contaminant sources are segregated from the stormwater outfalls:

- Discharges resulting from on-site spills;
- Drip pans;
- Wash waters from material handling and processing areas; and
- Wash and rinse waters from decontamination of the insides of drums, tanks, and other containers.

Wash water from the cleaning of road grit from containers is discharged through the stormwater outfalls.

The waterways of Outfalls 003 and 004 are monitored prior to the actual discharge points. When elevated concentrations are found, either by pre-discharge testing or actual discharge monitoring, steps are taken to 1) minimize discharge of contaminated stormwater and 2) locate and control the source.

The gate at Outfall 004 (Pump Station 3) is routinely closed. When stormwater begins to collect, a pre-discharge sample is analyzed for pH and total organic carbon (TOC) and observed for any sheen. If the results are acceptable, the gate is opened and the discharge is monitored according to permit requirements.

The gates at Pump Station 1 (downstream of Outfall 003) are kept open in order not to block the discharge of Outfall 001, which enters the same drainage canal. Periodically, the water upstream of Outfall 003 is

tested. If a problem is indicated, the gates are closed, a sample is taken at the gate to judge whether the contamination has entered the actual discharge, and actions are taken to control the source. Additionally, a gate, which is routinely closed, has been placed in the discharge canal upstream of the Outfall 003 sample point. This facilitates capture and control of contaminated stormwater.

Other Discharges

There are several other streams that may discharge intermittently through Outfalls 003 and 004, which are primarily stormwater outfalls. These include utility waters (internal condensate from steam lines) and certain non-stormwater discharges as listed in Ketjen's current permit (Other Requirement No. 5).

Wastewater Treatment Units

Process wastewater is discharged to the Process Canal. The Process Canal is located on property owned by Ethyl, but is operated by Ketjen. The relationship between Ketjen and Ethyl is controlled by contractual agreement. A weir with an underflow discharge is installed in the Process Canal to retain floating, free-phase hydrocarbons, so as to prevent their discharge to the wastewater treatment system. From the Process Canal, wastewater is pumped to the Mix Sump, which then flows to the biological treatment system. pH adjustment is provided in the Process Canal and in the Mix Sump, upstream of the biological system. Biological treatment is provided in a combined aeration/settling basin. The basin is baffled to route wastewater first through an aerated section (referred to as the Aeration Basin, with surface aerators), then into quiescent settling sections (referred to as the Detention Basin). Although the basin is baffled between sections, visually it appears as one basin and is considered as a single impoundment. The Aeration-Detention Basin is owned and operated by Ketjen. Outfall 001 is the discharge from the detention section of this basin.

The Storm Water Holdup Basin is used to store process wastewater (especially during storm events) in order to moderate the flows and loadings to the wastewater treatment system. Wastewater is transferred from the Storm Water Holdup Basin to wastewater treatment as capacity permits. The East Drainage Basin is used to hold process wastewater and stormwater. It drains into the Storm Water Holdup Basin. The East Drainage Basin and Storm Water Holdup Basin are owned and operated by Ketjen. Stormwater and process wastewater are routinely routed through and/or managed in the North and South Solids Areas, and the North and South Sand Beds. In addition, during high storm runoff events or upset/spill response events, the resulting wastewater may be routed to and contained in the Drying Area.

Solids are dredged periodically from the Process Canal and the Aeration-Detention Basin and placed in the North Sand Bed and South Sand Bed for dewatering. Dewatered solids from the sand beds flow by gravity or are moved by mechanical means to the Drying Area. Drainage from the Drying Area flows to the South Solids Area and from there to the North Solids Area. Water collected in the North Solids Area is routed by Ketjen to Ketjen's wastewater treatment system.

Vacuum Trucks, Vacuum Boxes, Frac Tanks and Other Miscellaneous Containers

Ketjen routinely uses vacuum trucks, vacuum boxes, frac tanks and other containers to collect and manage wastewater and wastewater solids from equipment maintenance, process turnaround, tank cleanout activities, and wastewater upset response. In addition to storing wastewater, these containers may be used to provide treatment such as dewatering, neutralization, and phase separation. The wastewater is either transferred to the wastewater treatment system for further treatment and discharge through Outfall 001; or shipped off-site for treatment and disposal at a permitted industrial wastewater disposal facility. Any other wastewater residuals are shipped off-site for disposal at a permitted industrial waste disposal facility.

Tank T-693

T-693 is an in-ground, open top tank located in Ketjen's alkyl production unit. The tank does not receive any process wastewater. Stormwater collects in the tank, and the water must be periodically pumped out into the stormwater system.

Volatile Organic Compound (VOC) Water Separators

Ketjen operates several process tanks that are used to perform phase separation of organic material from aqueous phase material. Based on TCEQ VOC air control regulations (30 TAC 115, Subchapter B, Division 3), these tanks have been authorized for VOC air emissions as volatile organic compound (VOC) water separators [defined at 30 TAC 101(117)]. The aqueous phase material is periodically discharged to the wastewater treatment system where it is treated and discharged through Outfall 001. The purpose of these tanks is chemical manufacturing, and these tanks are not wastewater treatment tanks.

Relationship to SPCC

Ketjen is required to maintain a Spill Prevention Control and Countermeasures (SPCC) Plan. As part of its SPCC plan, Ketjen constructs and maintains containment structures around oil storage facilities. The plant dike and water gates are included in the containment plan. The plant dike is an earthen, horseshoe-shaped wall that is located between the processing areas and the HSC. The gates are located in the dike, at the waterways that lead out of the plant and into the HSC. There are four gates. Three of the gates are located in the dike wall at Pump Stations 1, 2, and 3. The fourth gate is located in the drainage canal just upstream of Outfall 003. Each of these gates can be closed in order to prevent discharge of contaminated water into the HSC.

The gates at Outfall 003, Pump Station 2, and Pump Station 3 are routinely closed as required by the SPCC plan. The gate at Pump Station 1 is routinely open, but is closed as needed either to 1) prevent discharge of contaminated water to the Ship Channel, or 2) prevent Ship Channel water from entering the plant.

Relationship to RCRA

Companies that discharge wastewater under Ketjen's TPDES permit WQ0000492000 handle materials that may be included in the lists of F, K, U, and P hazardous wastes at 40 CFR 261.31-261.33. De minimis

losses and laboratory activities that involve these materials are routinely managed in the site process wastewater system to the extent allowed by the “headworks rule exemptions” at 40 CFR 261.3(a)(2)(iv)(A-G). Waste and wastewater that conform to the headworks rule exemptions are exempt from regulation as hazardous waste.

Several units of the wastewater treatment system listed below are surface impoundments:

- Process Canal
- Mix Sump
- Aeration-Detention Basin
- Storm Water Holdup Basin
- East Drainage Basin
- North Sand Bed
- South Sand Bed
- Drying Area
- North Solids Area
- South Solids Area

Characteristically hazardous wastewaters are not managed in the surface impoundments. Operational procedures assure that, when wastewater has the potential to have a characteristic of hazardous waste, it is held in process equipment until it is tested. Wastewater that demonstrates a characteristic of hazardous waste is either segregated for off-site treatment, or treated in tanks or containers to remove hazardous waste characteristics. Wastewater that does not have a characteristic of hazardous waste and is not listed hazardous waste may be managed in surface impoundments.

Tanks R-5104 and T-5130

Tank R-5104 is a RCRA permit-exempt elementary neutralization unit [defined at 40 CFR 260.10 and 30 TAC 335.1(52)]. After neutralization, the material is stored in T-5130 and then transferred to either the North Sand Bed or the South Sand Bed.

In-Process Units

Some water streams are qualified for further use in the manufacturing process. These water streams are stored in tanks or containers and then recycled into the manufacturing process. These tanks are considered to be part of the chemical manufacturing process, not the wastewater treatment system. These tanks and containers are exempt from both TPDES and RCRA permitting.

Treatment Chemicals

Chemicals are used in the treatment of cooling towers, boilers, and wastewater to maintain water quality or support certain processes. Other chemicals include those for washing of vehicles and buildings, reduction of algal production in the Aeration-Detention Basin, and chemicals for water tracing in the wastewater system.

WATER SUPPLY

Ketjen obtains its water supply from the City of Houston via the Coastal Water Authority distribution system. The City of Houston is a public water system (PWS) with ID TX1010013.

EFFLUENT GUIDELINES

National effluent guidelines apply to certain wastewaters authorized by the TPDES permit. Guidelines for the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) industry at 40 CFR 414 apply to several of the wastewaters discharged by the facility, specifically, Subpart G (Bulk Organic Chemicals), Subpart H (Specialty Chemicals), and Subpart I (Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment). Process wastewaters under Subpart H are not identified by name at 40 CFR 414, Subpart H. In the effluent guidelines, Subpart H is defined as all SIC 2865 and SIC 2869 organic chemicals and organic chemical groups, which are not defined as commodity (Subpart F) or bulk organic chemicals (Subpart G). In other words, Subpart H covers miscellaneous chemicals not specifically identified in the other subparts. Process wastewater flow rates are given in Table 1

Inorganic chemicals are also produced. None of these inorganic products are covered by effluent guidelines at 40 CFR 415, Effluent Guidelines for Inorganic Chemicals Manufacturing.

With respect to the aluminum powdering process on-site, effluent guidelines for Nonferrous Metals Forming and Metal Powders at 40 CFR 471 were reviewed for applicability. Subpart J of 40 CFR 471, Metals Powders, covers metal powdering by atomization. However, the guidelines in Subpart J [40 CFR 471.101(a)] only cover production by wet (water) atomization, and apply only to the atomization wastewater. Ketjen uses a dry atomization process wherein the aluminum powder is purposely protected from contact with water. Aluminum ingots are melted in a furnace. The molten aluminum is atomized by air, producing aluminum powder. Air is also used to transfer the powder into a cyclone collection system. Subsequent transfers are made using nitrogen. There are some wastewaters generated indirectly from the process. These wastewaters are air compressor condensate, process equipment cleaning (aqueous sodium hydroxide solution, resulting in aqueous sodium aluminate solution), and routine housekeeping (resulting in aqueous aluminum powder slurry). There is a scrubber on the powder transfer system, which uses petroleum lubricating oil base scrubber material (nonaqueous). The scrubber fluid is then used on-site for chemical manufacturing (it is not discharged as a wastewater). Based on this process, 40 CFR 471 Subpart J is not applicable.

Wastewaters received from the other facilities described in previous sections may be considered off-site wastewaters, but they are not subject to 40 CFR 437 (Centralized Waste Treatment) effluent guidelines because they are routed to Ketjen's wastewater system via conduit (40 CFR 437.1(b)(3)) and also because they are similar to other wastewaters that are generated by Ketjen and are compatible with Ketjen's wastewater treatment system (40 CFR 437.1(b)(2)).

Table 1. Raw Materials, Intermediates, Products, and Other Materials		
KETJEN LIMITED LIABILITY COMPANY		
Use	Chemical Name	CAS Number
Raw material	1-Decene	872-05-9
Raw material	2,4-toluenediamine	95-80-7
Raw material	2,6-toluenediamine	823-40-5
Raw material	IRGANOX L 57	68411-46-1
Raw material	Isopar E Solvent	64741-66-8
Raw material	ISOPAR G	64742-48-9
Raw material	ISOPAR L	64742-48-9
Raw material	Kaydol (white mineral oil)	8042-47-5
Raw material	METHYLENEBIS (DI-T-BUTYLPHENOL)	118-82-1
Raw material	PENNSTOP	3710-84-7
Raw material	TITANIUM	7440-32-6
Raw material	White Mineral Oil	8042-47-5
Raw Material	Octane	111-65-9
Raw material	Aluminum	7429-90-5
Raw material	Aniline (Benzenamine)	62-53-3
Raw material	Cyclohexane	110-82-7
Raw material	Naphtha Hydrotreated Lights	142-82-5
Raw material	Hexane	110-54-3
Raw material	Hexene	592-41-6
Raw material	Hydrogen Chloride	7647-01-0
Raw material	Isohexane	107-83-5
Raw material	Isopentane	78-78-4
Raw material	Magnesium	7439-95-4
Raw material	N-Butylchloride	109-69-3
Raw material	o-Toluidine	95-53-4
Raw material	Octene	111-66-0
Raw material	Sodium	7440-23-5
Raw material	Toluene	108-88-3
Raw material	2,6 diisopropylphenol	2078-54-8
Intermediate	DEA Btms. (Benzenamine, Ethylenated, Distrn. Resid)	72207-55-7
Intermediate	Ethyl zinc chloride	2633-75-2
Intermediate	Tx Mix Hydrocarbon Mixture)	Mixture
Intermediate	Orthoalkylate Fuel Blend	Mixture
Intermediate	Aluminum Oxide	1344-28-1
Intermediate	Zinc Oxide	1314-13-2
Intermediate	Magnesium Hydroxide	1309-42-8
Intermediate	Magnesium Chloride	7786-30-3
Product	Aniline, 2-ethyl-6-methyl- (MEA)	24549-06-2
Product	Aniline, 2,6-diethyl- (DEA)	579-66-8
Product	Aniline, o-ethyl- (OEA)	75-00-3

Table 1. Raw Materials, Intermediates, Products, and Other Materials		
KETJEN LIMITED LIABILITY COMPANY		
Use	Chemical Name	CAS Number
Product	Ethacure 100 Curing Agent (DETA)	68479-98-1
Product	N-propylbenzene (NPBZ)	103-65-1
Other material	Calpar 100	Severely treated base oils
Other material	Acetone	67-64-1
Other material	Aluminum Chloride	7446-70-0
Other material	Antifoam Agent	N/A
Other material	Cellulose NB-10	9004-34-6
Other material	Chlorine	7782-50-5
Other material	Diatomaceous Earth (DE)	68855-54-9
Other material	Diesel Fuel	68476-34-6
Other material	Dowtherm A	101-84-8
Other material	Dowtherm J	25340-17-4
Other material	Ethylene glycol	107-21-1
Other material	Universal Green (fire fighting foam)	Mixture
Other material	Freon 114	76-14-2
Other material	Freon 12	75-71-8
Other material	Freon 22 (Aka HCFC 22)	75-45-6
Other material	Gasoline (Unleaded)	86290-81-5
Other material	Kerosene	8008-20-6
Other material	Liquid Soap	N/A
Other material	Oakite 32	7647-01-0
Other material	Oakite 88	144-62-7, 7681-38-1, 25155-30-0
Other material	Paint Thinner	N/A
Other material	Pentane	109-66-0
Other material	Phosphoric Acid	7664-38-2
Other material	Sodium Aluminate	1302-42-7
Other material	Sodium Chloride	7647-14-5
Other material	Sodium Hydroxide	1310-73-2
Other material	Sodium Hypochlorite	7681-85-9
Other material	Sulfamic Acid	5329-14-6
Other material	Sulfuric Acid	7664-93-9
Other material	Valspar 7735 Thinner	111-76-2, 1330-20-7, 100-41-4
Other material	Varsol 1	8052-41-3
Other Material	Royal Purple Barrier Fluid	Mixture
Other Material	Paints	N/A
Other Material	IRGANOX L57	68411-46-1
Other Material	MOBIL DTE OIL HH (Hydraulic Oil)	Mixture
Other Material	Univolt N 61 B (TRANSFORMER OIL)	64742-53-6

Table 1. Raw Materials, Intermediates, Product, and Other Materials

ETHYL CORPORATION				
Use	Product Chemical Names	CAS Number	Non-Regulated Material	Site
product	H1932X Lube Additive		NR	Afton
product	H4249A Fuel Additive	64742-95-6,95-63-6		Afton
product	H6411EN Fuel Additive	Proprietary		Afton
product	H6416 Fuel Additive	Proprietary		Afton
product	H6421 Fuel Additive	64742-95-6		Afton
product	H6431 Fuel Additive	64742-95-6		Afton
product	H646 Lube Additive		NR	Afton
product	H6560C Fuel Additive	64742-95-6		Afton
product	H6590 Fuel Additive	Proprietary,64742-95-6		Afton
product	H6590C Fuel Additive	Proprietary,64742-95-6		Afton
product	H6591S Fuel Additive	Proprietary,64742-95-6		Afton
product	H6592 Fuel Additive	Proprietary,64742-95-6		Afton
product	H7560 Lube Additive		NR	Afton
product	H9300C Fuel Additive	69649-42-3		Afton
product	Methylcyclopentadienyl manganese tricarbonyl (MMT)	121108-13-3		Ethyl
product	Tetraethyl Lead	78-00-2		Ethyl
product	X11069 Lube Additive	Proprietary		Afton
product	X15764 Lube Additive		NR	Afton
product	H3062 Fuel Additive	12108-13-3, 64742-94-5		Afton
product	HiTEC 643 Bulk	64742-65-0		Afton
product	HiTEC 1933X Bulk	64742-54-7		Afton
product	HiTEC 648E Bulk	64742-54-7		Afton
product	HiTEC 60646 Bulk	64742-65-0		Afton
product	HiTEC 6422 Bulk	64742-65-0		Afton
product	HiTec 6470I Bulk	64742-65-0		Afton
product	HiTEC 6449 Bulk	64742-95-6		Afton
product	HiTec 6590M Bulk	64742-95-6		Afton
product	HiTEC 6585 Bulk	64742-95-6		Afton
product	HiTEC 6587A Bulk	64742-95-6		Afton
product	HiTEC 6406 Bulk	64742-95-6		Afton
product	HiTEC 6406C Bulk	Proprietary		Afton
product	HiTEC 65005 Bulk	64742-95-6		Afton
product	HiTEC 65027 Bulk	64742-95-6		Afton
product	HiTEC 65201 Bulk	64742-95-6		Afton
product	HiTEC 65096 Bulk	64742-95-6		Afton
product	HiTEC 65016 Bulk	64742-95-6		Afton
product	HiTEC 65090 Bulk	64742-95-6		Afton
product	HiTEC 65500C Bulk	64742-95-6		Afton
product	HiTEC 64111 Bulk	64742-95-6		Afton

Table 1. Raw Materials, Intermediates, Product, and Other Materials

ETHYL CORPORATION				
product	HiTEC 65032 Bulk	64742-95-6		Afton
product	HiTEC 65531 Bulk	64742-95-6		Afton
product	HiTEC 65030P Bulk	64742-95-6		Afton
product	HiTEC 65031 Bulk	64742-95-6		Afton
product	HiTEC 65030 Bulk	64742-95-6		Afton
product	HiTEC 65522C Bulk	64742-95-6		Afton
product	HiTEC 65522M Bulk	64742-95-6		Afton
product	HiTEC 65522 Bulk	64742-95-6		Afton
product	HiTEC 65522F Bulk	64742-95-6		Afton
product	HiTEC 65522FG Bulk	64742-95-6		Afton
product	HiTEC 6411 Bulk	Proprietary,64742-95-6		Afton
product	HiTEC 4995HR Bulk	72318-87-7		Afton
product	HiTEC 7050 Bulk	64742-54-7		Afton
product	DCF 20-12.5 Bulk	64742-47-8		Afton
product	HiTec 9325G Bulk	64742-54-7		Afton
product	HiTEC 9325H Bulk	64742-54-7		Afton
product	HiTEC 12200 Bulk	64742-65-0		Afton
product	HiTEC 12210M Bulk	64742-65-0		Afton
product	HiTEC 9881 Bulk	64742-54-7		Afton
product	HiTEC 11199 Bulk	64742-54-7		Afton
product	HiTEC 12050 Bulk	64742-54-7		Afton
product	HiTEC 11163 Bulk	64742-54-7		Afton
product	HiTEC 11188 Bulk	64742-54-7		Afton
product	HiTEC 11156 Bulk	64742-54-7		Afton
product	HiTEC 11183 Bulk	64742-54-7		Afton
product	HiTEC 11183B Bulk	64742-54-7		Afton
product	HiTEC 11158 Bulk	64742-54-7		Afton
product	HiTEC 11196 Bulk	64742-54-7		Afton
product	HiTEC 9886 Bulk	64742-54-7		Afton
product	HiTEC 11161 Bulk	64742-54-7		Afton
product	HiTEC 11167 Bulk	64742-54-7		Afton
product	HiTEC 9268 Bulk	64742-54-7		Afton
product	HiTEC 7270L Bulk	Proprietary		Afton
raw material	2-Ethylhexyl nitrate	27247-96-7		Afton
raw material	Aluminum Chloride	7446-70-0		Afton
raw material	Aromatic Solvent A100	104-76-7		Afton
raw material	Aromatic Solvent A150	64742-94-5		Afton/Ethyl
raw material	Boric Acid	10043-35-3		Afton
raw material	Boron Trifluoride Gas	7637-07-2		Afton
raw material	Boron trifluoride	7637-07-2		Afton
raw material	Chlorine	7782-50-5		Afton
raw material	DDSA Acid	27859-58-1		Afton

Table 1. Raw Materials, Intermediates, Product, and Other Materials

ETHYL CORPORATION				
raw material	Demulsifier T-9310			Afton
raw material	Diatomaceous earth - filter aid	27247-96-7		Afton
raw material	Diesel fuel oil	7446-70-0		Afton
raw material	Dispersant Lightend Oil			Afton
raw material	Dowtherm heat transfer fluid - Diphenyl ether	101-84-8		Afton
raw material	Ethyleneamine	68131-73-1		Afton
raw material	Fatty Acid	7637-07-2		Afton
raw material	Formaldehyde	50-00-0		Afton
raw material	Formalin (44% Formaldehyde)	50-00-0		Afton
raw material	Heptane	142-82-5		Afton
raw material	Industrial Oil (Petroleum Hydrocarbon)	68855-54-9		Afton
raw material	Irgamet 39	68814-87-9		Afton
raw material	Kerosene	101-84-8		Ethyl
raw material	Maleic anhydride	108-31-6		Afton
raw material	Molyvan-855	68131-73-7		Afton
raw material	Napthinic Anhydride	81-84-8		Afton
raw material	Neutral oil	50-00-0		Afton
raw material	ortho-Cresol	95-48-7		Afton
raw material	Phenol	142-82-5		Afton
raw material	Polyether Polyol			Afton
raw material	Polyisobutylene	9003-29-61		Afton
raw material	Process oil	64742-42-65-0		Afton
raw material	Sodium hydroxide	1310-73-2		Afton
raw material	Syltherm 800	63148-62-9		Afton
raw material	Tetraethylenepentamine (TEPA)	112-57-2		Afton
raw material	Welchem 1500 (amino aliphatic propoxylate)			Afton

Table 1. Raw Materials, Intermediates, Product, and Other Materials		
ENTERPRISE		
Use	Chemical Name	CAS Number
Raw material	Aromatic 200 (Aromatic Hydrocarbons)	Mixture
Raw material	Isobutanol	78-83-1
Raw material	Isobutylene / Isobutane mix	115-11-7 75-28-5
Raw material	Tetrahydroindene	68477-54-3
Other Material	Sodium Hypochlorite 10-16%	7681-52-9
Other Material	Sulfuric Acid 93%	7664-93-9
Other Material	Aqueous Ammonia	1336-21-6
Other Material	n-Butane	106-97-8
Product	Isobutane	75-28-5
Product	Isobutylene	115-11-7
Product	Isobutylene Heavies	8006-61-9

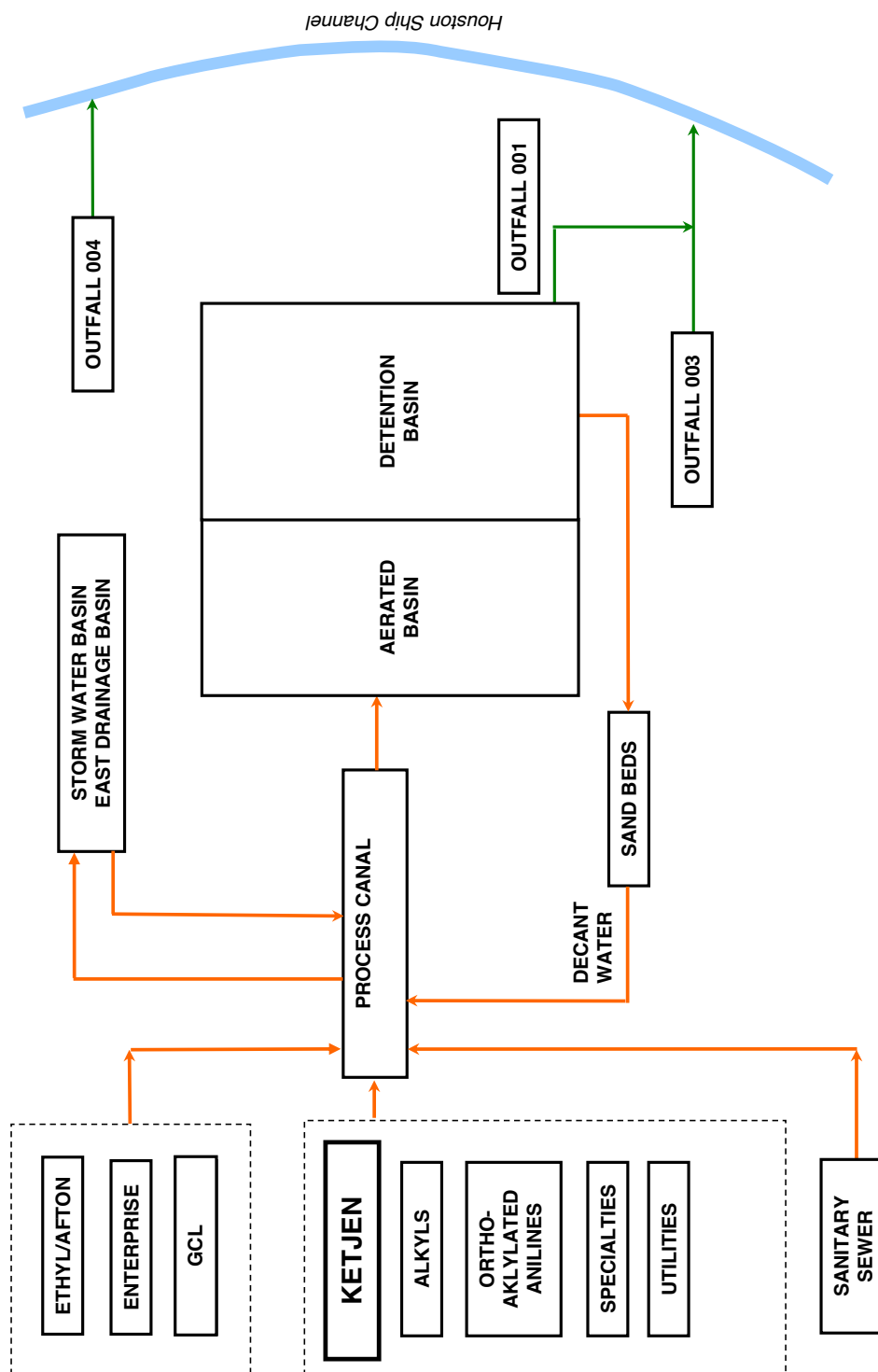
Table 1. Raw Materials, Intermediates, Product, and Other Materials		
GCL Solar Materials US IV LLC		
Use	Chemical Name	CAS Number
Raw material	Sodium hydroxide 5 - 25 wt %	1310-73-2
Product	Polysilicon	7440-21-3
Other material	Hydrogen	1333-74-0
Other material	Nitrogen	7727-37-9
Intermediate/product	Silicon tetrahydride (silane)	7803-62-5
Byproduct	Sodium silicate	6834-92-0
Other material	Gasoline	
Other material	Isopropanol	67-63-0

Table 2. Outfall Wastewaters

Outfall	Wastewater Source	Producer	% of OCPSP Production	Average (gpd)
001	Process Wastewater			
	40 CFR 414, Effluent Guidelines, Organic Chemicals, Plastics, and Synthetic Fibers			
	Subpart G - Bulk Organic Chemicals			
	*Alkyl Benzenes (N-propyl benzene, NPBZ)		Ketjen	110,000
	Total for OCPSP Subpart G			110,000
	Subpart H - Specialty Organic Chemicals**			
	Alkylated anilines	Alkylation of ortho-toluidine (2-ethyl-6-methylaniline)	Ketjen	9,000
	Metal alkyls	Hydrometalation or substitution	Ketjen	
	Magnesium alkyls (butylethylmagnesium)	Hydrolysis of magnesium alkyls	Ketjen	
	Lube additives	Chemical addition of maleic anhydride, polyethyleneamine and polyisobutylene; lube additives blending	Afton	
	Lead alkyl blending (process area stormwater, spills)	Blending	Ethyl	2,000
	Ground water recovery		Ethyl	
	Total for OCPSP Subpart H			99%
	Process area stormwater (87% of process area related to OCPSP)			824,760
	Total for OCPSP (all Subparts)			945,760
	Inorganic Chemicals - Products listed below not covered by effluent guidelines			
	Aluminum powdering (by dry atomization)		Ketjen	0
	Potassium carbonate (terminal operations)		Enterprise	5,000
	Process area storm water (13% of process area related to inorganic production)			123,240
	Total for inorganic chemicals			128,240
	Utilities			
	Utilities area			1,150,000
	MP-1 (alkylated anilines)			
	Total for utilities			1,150,000
	Domestic Wastewater			20,000
	Total dry weather flow			1,296,000
	Total process area stormwater			948,000
Two-year maximum monthly average flow (June 2018 - May 2020)			2,244,000	
Other Stormwater (more extreme storm events)			3,920,000	
Total Permitted Flow			6,164,000	
003	Utility wastewater, wash water, non-process area stormwater, certain non-stormwater discharges			Intermittent and flow variable
004	Utility wastewater, non-process area stormwater, certain non-stormwater discharges			Intermittent and flow variable
*Product groups				
**Where a chemical is not included in another subpart, it is classified as Subpart H.				

May 2025

Figure 1. Wastewater Flow Diagram



ATTACHMENT T-3
Treatment Chemicals
WQ0000492000

Product ID	Where Used	Type of Product	Components Listed in SDS (CAS)	Aquatic Toxicity Data in SDS	Bioaccumulation / Persistence Data in SDS
Acid (e.g., sulfuric acid)	Wastewater treatment (Ethyl)	pH adjustment		no SDS	N/A
AquaShade / AquaShadow	Wastewater treatment	Algal shading	Acid Blue 9 (3844-45-9) Acid Yellow 23 (1934-21-0) 2-Aminoethanol (141-43-5)	No	No
Caustic (e.g., sodium hydroxide)	Wastewater treatment (Ethyl)	pH adjustment	Sodium hydroxide (1310-73-2) Sodium carbonate (497-19-8)	Yes	Yes
ChemTreat BL122	Boiler (Ketjen)	Dissolved oxygen scavenger	Sodium bisulfite (7631-90-5)	Yes	No
ChemTreat BL197	Boiler (Ketjen)	Antifoam agent	Polyalkylene glycol monobutyl ether (9038-95-3)	Yes	No
ChemTreat BL2453	Boiler (Ketjen)	Boiler treatment	Potassium hydroxide (1310-58-2) Potassium pyrophosphate (7320-34-5) Tetrasodium ethylenediaminetetraacetate (64-02-8)	Yes	No
ChemTreat BL1559	Boiler (Ketjen)	Steam line treatment	Methoxypropylamine (5332-73-0) Cyclohexylamine (108-91-8)	Yes	No
ChemTreat CL41		Cooling water microbiocide	Sodium bromide (7647-15-6)	Yes	No
ChemTreat CL49	Ketjen	Cooling water microbiocide	Sodium chlorosulfamate (17172-27-9) Sodium bromosulfamate (134509-56-1) Sodium hydroxide (1310-73-2)	Yes	No
ChemTreat CL1429	Ketjen	Cooling water treatment	Tetrapotassium pyrophosphate (7320-34-5) Potassium phosphate, dibasic (7758-11-4)	Yes	No
ChemTreat CL2150	Ketjen	Cooling water microbiocide and paper slimicide	5-chlor-2-methyl-4-isothiazolin-3-one (26172-55-4) 2-methyl-4- Isothiazolin-3-one (2682-20-4)	Yes	No
ChemTreat CL2212	Ketjen	Cooling water microbiocide	Glutaraldehyde (111-30-8)	Yes	No
ChemTreat CL5631	Ketjen	Scale and corrosion inhibitor	1h-benzotriazole,C-chloro-c-methyl-, Sodium salt (202402-04-0)	Yes	No
ChemTreat CL8741	Ketjen	Cooling water treatment	Sodium hydroxide (1310-73-2) Chlorotolyltriazole sodium salt (202420-04-0)	Yes	No
ChemTreat CT708	Ketjen	Potable water treatment	Sodium hexametaphosphate (10124-56-8)	Yes	No
ChemTreat P817E	Ketjen	Water clarification, solids conditioning	No hazardous ingredients listed	Yes	No
ChemTreat PG906	Ketjen	Retention and drainage aid	No hazardous ingredients listed	Yes	No
Ferrous sulfate	Wastewater treatment (Ethyl)		Ferrous sulfate (7720-78-7)	Yes	No
Sodium Hypochlorite 12.5%	Afton	Cooling water treatment	Sodium hydroxide (1310-73-2) Sodium hypochlorite (7681-52-9)	Yes	Yes
Phosphoric Acid	Afton	Corrosion inhibitor	Phosphoric acid (7664-38-2)	Yes	Yes
INHIBITOR AZ8104	Ethyl	Corrosion inhibitor	Chlorotolyltriazole sodium salt (202420-04-0) Dichlorotolyltriazole Benzotriazole, methyl, sodium salt (sodium tolyltriazole) (64665-57-2) Sodium hydroxide (1310-73-2)	Yes	Yes
Lithium chloride	Wastewater treatment	Water tracing	Lithium chloride (7447-41-8)	Yes	No
Rhodamine dyes and other similar water tracing dyes	Sewer collection system	Water tracing		no SDS	N/A
Praestol A3040	Ethyl	Water treatment	Aliphatic Hydrocarbon (254504001-5164) Alkanol Polyalkoxylate (254504001-5531)	Yes	Yes
VENPURE(TM) SOLUTION	Wastewater Treatment (Ethyl)		Sodium hydroxide (1310-73-2) Sodium borohydride (16940-66-2)	Yes	Yes
ZEP Formula 965	Outdoor equipment	Wash powder	Sodium carbonate (497-19-8) Sodium dodecylbenzene sulfonate (25155-30-0)	no SDS	N/A
ZEP Formula 965-E	Outdoor equipment	Wash powder	Sodium carbonate (497-19-8) Sodium metasilicate (6834-92-0) Sodium dodecylbenzene sulfonate (25155-30-0)	no SDS	N/A

SAFETY DATA SHEET



AQUASHADE®

SECTION 1. IDENTIFICATION

Product name : AQUASHADE®

EPA Registration No. 33068-1

Relevant identified uses of the substance or mixture: Aquatic plant growth control

Manufacturer or supplier's details

Company : SePRO Corporation
11550 North Meridian Street, Suite 600
Carmel, IN 46032
Telephone : 1-317-580-8282 / Toll Free 1-800-419-7779
Fax: 317-580-8290
Monday-Friday, 8am-5pm EST
Email www.sepro.com
Emergency telephone number : **INFOTRAC 24-hour service 1-800-535-5053**

Recommended use of the chemical and restrictions on use

Recommended use : Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture according to US Regulation 29 CFR 1910.1200 and the Canadian HPA.

GHS label elements

Not a hazardous substance or mixture according to US Regulation 29 CFR 1910.1200 and the Canadian HPA.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
2-Aminoethanol	141-43-5	0.3 - 0.5

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.



AQUASHADE®

If unconscious, place in recovery position and seek medical advice.

In case of skin contact	: Take off all contaminated clothing immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists.
In case of eye contact	: In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.
If swallowed	: Drink water as a precaution. Get medical attention if symptoms occur.
Most important symptoms and effects, both acute and delayed	: No information available.
Notes to physician	: Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water Carbon dioxide (CO ₂) Foam
Specific hazards during firefighting	: Heating or fire can release toxic gas.
Further information	: Use water spray to cool unopened containers.
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment.
Environmental precautions	: Try to prevent the material from entering drains or water courses.
Methods and materials for containment and cleaning up	: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	: Take precautionary measures against static discharges.
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**AQUASHADE®**

- Advice on safe handling : Avoid inhalation, ingestion and contact with skin and eyes.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
Do not freeze.
- Materials to avoid : No special restrictions on storage with other products.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-Aminoethanol	141-43-5	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		STEL	6 ppm 15 mg/m ³	NIOSH/GUIDE
		REL	3 ppm 8 mg/m ³	NIOSH/GUIDE

Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection
Remarks : Wear protective gloves.
- Eye protection : Safety glasses
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : dark blue
- Odour : no data available
- Odour Threshold : no data available
- pH : 4.2 - 4.7

**AQUASHADE®**

Melting point/freezing point	: no data available
Boiling point/boiling range	: 212 °F / 100 °C
Flash point	: no data available
Evaporation rate	: no data available
Flammability (solid, gas)	: no data available
Flammability (liquids)	: no data available
Self-ignition	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: no data available
Density	: 1.055 g/ml
Water solubility	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Decomposition temperature	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Explosive properties	: no data available
Oxidizing properties	: no data available
Minimum ignition energy	: no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	: Heat



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Incompatible materials : Oxidizing agents
Hazardous decomposition products : No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity : > 5,000 mg/kg
Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : > 2,000 mg/kg

Skin corrosion/irritation

Assessment: No skin irritation

Serious eye damage/eye irritation

Assessment: No eye irritation

Respiratory or skin sensitisation

Remarks: Non-sensitizing

Germ cell mutagenicity

Genotoxicity in vitro : Remarks: no data available

Carcinogenicity

Result: no data available

Remarks: no data available

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

Effects on fertility : Remarks: no data available

STOT - single exposure

Remarks: no data available



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STOT - repeated exposure Remarks: no data available

Aspiration toxicity No aspiration toxicity classification

Further information Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish : Remarks: no data available

Persistence and degradability

no data available

Bioaccumulative potential

Bioaccumulation : Remarks: no data available

Components:

2-Aminoethanol:

Partition coefficient: n-octanol/water : log Pow: -1.91 (25 °C) Method: OECD Test Guideline 107

Mobility in soil

Distribution among environmental compartments : Remarks: no data available

Other adverse effects

Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B)Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If this product becomes a waste, it will be a nonhazardous waste.
As a nonhazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations.



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SECTION 14. TRANSPORT INFORMATION

DOT

: Not dangerous goods

UN number
Proper shipping name
Transport hazard class
Packing group

: Not applicable
: Not applicable
: Not applicable
: Not applicable

TDG

: Not dangerous goods

UN number
Proper shipping name
Transport hazard class
Packing group

: Not applicable
: Not applicable
: Not applicable
: Not applicable

IATA

: Not dangerous goods

UN number
Proper shipping name
Transport hazard class
Packing group

: Not applicable
: Not applicable
: Not applicable
: Not applicable

IMDG

: Not dangerous goods

UN number
Proper shipping name
Transport hazard class
Packing group

: Not applicable
: Not applicable
: Not applicable
: Not applicable

ADR

: Not dangerous goods

UN number
Proper shipping name
Transport hazard class
Packing group

: Not applicable
: Not applicable
: Not applicable
: Not applicable

RID

: Not dangerous goods

UN number
Proper shipping name
Transport hazard class
Packing group
Special precautions for user
Transport in bulk according to
Annex II of MARPOL 73/78 and the
IBC Code

: Not applicable
: Not applicable
: Not applicable
: Not applicable
: none
: Not applicable

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These



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requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

EPA Registration number : 33068-1
Signal word : CAUTION!
Hazard statements : Harmful if swallowed.
Harmful if absorbed through skin.
Causes moderate eye irritation.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Components	CAS-No.	Concentration
2-Aminoethanol	141-43-5	0.1 - 1 %
Sodium benzoate	532-32-1	0.01 - 0.1 %
Oxydipropanol	25265-71-8	0.01 - 0.1 %

This product contains the following VOC exemptions listed under the U.S. Clean Air Act Section 450.

Components	CAS-No.	Concentration
Polydimethylsiloxane	63148-62-9	0.01 - 0.1 %

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

**AQUASHADE®**

Components	CAS-No.
CI Food Blue 2	3844-45-9

Pennsylvania Right To Know

Components	CAS-No.
Water	7732-18-5
CI Food Blue 2	3844-45-9

New Jersey Right To Know

Components	CAS-No.
Water	7732-18-5
CI Food Blue 2	3844-45-9
tartrazine C.I.19140	1934-21-0

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian lists**NPRI**

Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

ACGIH : US. ACGIH Threshold Limit Values
NIOSH/GUIDE : US. NIOSH: Pocket Guide to Chemical Hazards, as amended
AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ -



AQUASHADE®

Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 2020.03.12

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.

Date format : 2022.02.14

US / EN

SAFETY DATA SHEET



AQUASHADOW® BLUE LAKE AND POND COLORANT

SECTION 1. IDENTIFICATION

Product name : AQUASHADOW® BLUE LAKE AND POND COLORANT

Relevant identified uses of substance or mixture: pond colorant

Manufacturer or supplier's details

Company : SePRO Corporation
11550 North Meridian Street, Suite 600
Carmel, IN 46032

Telephone : 1-317-580-8282 / Toll Free 1-800-419-7779
Fax: 307-580-8290
Monday-Friday, 8am to 5pm EST
Email www.sepro.com

Emergency telephone number : INFOTRAC 24-hour service 1-800-535-5053

Recommended use of the chemical and restrictions on use

Recommended use : Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture according to US Regulation 29 CFR 1910.1200 and the Canadian HPA.

GHS label elements

Not a hazardous substance or mixture according to US Regulation 29 CFR 1910.1200 and the Canadian HPA.

Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Substance

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
CI Food Blue 2	3844-45-9	100



AQUASHADOW® BLUE LAKE AND POND COLORANT

SECTION 4. FIRST AID MEASURES

- | | | |
|---|---|---|
| If inhaled | : | Move to fresh air.
Get medical attention if symptoms occur. |
| In case of skin contact | : | Wash off immediately with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately.
Call a physician if irritation develops or persists. |
| In case of eye contact | : | In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists. |
| If swallowed | : | Drink water as a precaution. DO NOT induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention if symptoms occur. |
| Most important symptoms and effects, both acute and delayed | : | None known. |
| Notes to physician | : | Treat symptomatically. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|--|
| Suitable extinguishing media | : | Choose extinguishing media suitable for surrounding materials. |
| Specific hazards during firefighting | : | Heating or fire can release toxic gas. |
| Further information | : | Use water spray to cool unopened containers. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.
Avoid dust formation. |
| Environmental precautions | : | If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Sweep up and shovel into suitable containers for disposal.
Avoid dust formation. |



AQUASHADOW® BLUE LAKE AND POND COLORANT

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	: Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	: Avoid inhalation, ingestion and contact with skin and eyes. Avoid dust formation.
Conditions for safe storage	: Keep tightly closed in a dry and cool place.
Materials to avoid	: No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Local exhaust ventilation is recommended if significant dusting occurs. Otherwise use general exhaust ventilation.

Personal protective equipment

Respiratory protection	: Respiratory protection not normally needed.
Hand protection Remarks	: Wear protective gloves.
Eye protection	: Safety glasses
Skin and body protection	: Wear protective gloves/ protective clothing.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: powder
Colour	: blue
Odour	: no data available
Odour Threshold	: no data available
pH	: no data available
Melting point/range	: 541 °F / 283 °C
Boiling point/boiling range	: 2,163 °F / 1,184 °C



AQUASHADOW® BLUE LAKE AND POND COLORANT

Flash point	: no data available
Evaporation rate	: no data available
Flammability (solid, gas)	: no data available
Flammability (liquids)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: no data available
Water solubility	: soluble
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Decomposition temperature	: 446 °F / 230 °C
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Stable under recommended storage conditions.
Conditions to avoid	: High temperatures
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity	: LD50: > 2,000 mg/kg
Acute inhalation toxicity	: Remarks: no data available



AQUASHADOW® BLUE LAKE AND POND COLORANT

Acute dermal toxicity : Remarks: no data available

Skin corrosion/irritation Mild skin irritation
Serious eye damage/eye irritation Assessment: Mild eye irritation

Respiratory or skin sensitisation

Remarks: This material is not known or reported to be a skin or respiratory sensitizer.

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP Group 3: Not classifiable as to its carcinogenicity to humans

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Aspiration toxicity No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity no data available

Persistence and degradability no data available

Bioaccumulative potential no data available

Mobility in soil no data available

Other adverse effects

Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B) Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If this product becomes a waste, it will be a nonhazardous waste.
As a nonhazardous solid waste it should be disposed of in accordance with local, state and federal regulations.

**SECTION 14. TRANSPORT INFORMATION**

DOT	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
TDG	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
IATA	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
IMDG	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
ADR	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
RID	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
Special precautions for user	:	none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity



AQUASHADOW® BLUE LAKE AND POND COLORANT

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
CI Food Blue 2	3844-45-9

Pennsylvania Right To Know

Components	CAS-No.
CI Food Blue 2	3844-45-9

New Jersey Right To Know

Components	CAS-No.
CI Food Blue 2	3844-45-9

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.



AQUASHADOW® BLUE LAKE AND POND COLORANT

Canadian lists

NPRI

Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

The components of this product are reported in the following inventories:

TSCA : The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 2020.03.12

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.




AQUASHADOW® BLUE LAKE AND POND COLORANT

Date format

: 2022.02.18

US / EN

 SAFETY DATA SHEET		Page: 1
		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Praestol™ A 3040 LTR
FLOCCULANT
™ Trademark, Solenis or its subsidiaries or affiliates,
registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet Solenis LLC 500 Hercules Road Wilmington Delaware 19808 United States of America RegulatoryRequestsNA@solenis.com	Emergency telephone number 1-844-SOLENIS (844-765-3647) / 606-329-5705 Product Information 1-844-SOLENIS (844-765-3647)
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2

Specific target organ systemic toxicity - single exposure : Category 3 (Central nervous system)


GHS Label element

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.

 SOLENIS <small>Strong bonds. Trusted solutions.</small>		Page: 2
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Response:

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

If skin irritation occurs: Get medical advice/ attention.

Take off contaminated clothing and wash before reuse.

Storage:

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

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Static Accumulating liquid

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Static Accumulator

Chemical nature : Defatter


Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
ALIPHATIC HYDROCARBON	254504001-5164	Flam. Liq. 4; H227 Skin Irrit. 2; H315 STOT SE 3; H336	>= 20.00 - < 30.00
ALKANOL POLYALKOXYLATE	254504001-5531	Acute Tox. 4; H302 Eye Irrit. 2A; H319	>= 1.50 - < 5.00

Trade Secret Composition - Conceal the Identity + Concentration

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
 Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.


		Page: 3
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

- | | |
|---|--|
| If inhaled | : Move to fresh air.
If unconscious place in recovery position and seek medical advice.
Consult a physician after significant exposure. |
| In case of skin contact | : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use. |
| In case of eye contact | : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist. |
| If swallowed | : Obtain medical attention.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician. |
| Most important symptoms and effects, both acute and delayed | : Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.
This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Lung irritation
confusion
irregular heartbeat
Convulsions
Causes skin irritation.
May cause drowsiness or dizziness. |
| Notes to physician | : No hazards which require special first aid measures. |

SECTION 5. FIREFIGHTING MEASURES


- Suitable extinguishing media : Use extinguishing measures that are appropriate to local

 SAFETY DATA SHEET		Page: 4
		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

	circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	: High volume water jet
Specific hazards during firefighting	: If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: carbon dioxide and carbon monoxide Nitrogen oxides (NOx) Hydrocarbons toxic fumes
Specific extinguishing methods	: Product is compatible with standard fire-fighting agents.
Further information	: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
Other information	: Comply with all applicable federal, state, and local regulations.

		Page: 5
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Avoid formation of aerosol.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Do not breathe vapours/dust.
 Do not smoke.
 Container hazardous when empty.
 Avoid exposure - obtain special instructions before use.
 Avoid contact with skin and eyes.
 Smoking, eating and drinking should be prohibited in the application area.
 For personal protection see section 8.
 Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Observe label precautions.
 Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters


Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ALIPHATIC HYDROCARBON	254504001-5164	TWA	200 mg/m3 Non-aerosol (as total hydrocarbon vapor)	ACGIH
		REL	100 mg/m3	NIOSH/GUID E

- Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain


		Page: 6
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	: Wear as appropriate: impervious clothing Safety shoes Choose body protection according to the amount and concentration of the dangerous substance at the work place. Discard gloves that show tears, pinholes, or signs of wear. Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	: Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES


Physical state	: liquid
Colour	: white
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Boiling point/boiling range	: > 414 °F / 212 °C (1013 hPa)
Flash point	: 200.8 °F / 93.8 °C
Evaporation rate	: < 1 n-Butyl Acetate

		Page: 7
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Flammability (liquids)	: Static Accumulating liquid
Upper explosion limit	: 7 %(V) Calculated Explosive Limit
Lower explosion limit	: 0.6 %(V) Calculated Explosive Limit
Vapour pressure	: 23.3333333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	: No data available
Relative density	: Approximate 1.1 (25 °C)
Density	: Approximate 1.05 g/cm3
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Oxidizing properties	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Product will not undergo hazardous polymerization.
Conditions to avoid	: Protect from frost. Heat, flames and sparks.
Incompatible materials	: halogens Strong acids Strong oxidizing agents strong reducing agents
Hazardous decomposition	

		Page: 8
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

products

carbon dioxide and carbon monoxide
Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity

Not classified based on available information.

Components:

ALIPHATIC HYDROCARBON:

Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat, male and female): > 5.28 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): > 2,000 mg/kg
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

ALKANOL POLYALKOXYLATE:

Acute oral toxicity : LD 50 (Rat): 1,940 mg/kg

Acute dermal toxicity : LD 50 (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Result: Repeated exposure may cause skin dryness or cracking.

Remarks: May cause skin irritation and/or dermatitis.

Components:

ALIPHATIC HYDROCARBON:

Result: Irritating to skin


ALKANOL POLYALKOXYLATE:

Result: Not irritating to skin

Serious eye damage/eye irritation

Not classified based on available information.

Product:

		Page: 9
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

ALIPHATIC HYDROCARBON:

Result: Mildly irritating to eyes

ALKANOL POLYALKOXYLATE:

Result: Irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

May cause drowsiness or dizziness.

Components:

ALIPHATIC HYDROCARBON:

Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Product:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Carcinogenicity:

IARC


No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

		Page: 10
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC 50 (Oncorhynchus mykiss (rainbow trout)): 67.0 mg/l
 Exposure time: 96 h
 Test Type: static test
 Remarks: Based on a similar product formulation.

LC 50 (Pimephales promelas (fathead minnow)): 4.3 mg/l
 Exposure time: 96 h
 Test Type: static test
 Remarks: Based on a similar product formulation.

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (Daphnia magna)): 1.6 mg/l
 Exposure time: 48 h
 Test Type: static test
 Remarks: Based on a similar product formulation.

Components:


ALIPHATIC HYDROCARBON:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Test substance: WAF
 Method: OECD Test Guideline 203
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EL50 (Water flea (Daphnia magna)): 1.4 mg/l
 Exposure time: 48 h
 Test Type: static test
 Test substance: WAF
 Method: OECD Test Guideline 202
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 3 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: WAF
 Method: OECD Test Guideline 201
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEL (Water flea (Daphnia magna)): 0.48 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Test substance: WAF

		Page: 11
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Method: OECD Test Guideline 211

Remarks: Information given is based on data obtained from similar substances.

ALKANOL POLYALKOXYLATE:

Toxicity to fish : LC 50 (Danio rerio (zebra fish)): 1 - 10 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 5 - 10 mg/l
Exposure time: 48 h

Toxicity to bacteria : EC 50: > 1,000 mg/l

Persistence and degradability

Product:

Biochemical Oxygen Demand (BOD) : Biochemical oxygen demand
548,000 mg/l

Chemical Oxygen Demand (COD) : 2,176,000 mg/l
Method: Chemical oxygen demand

Components:

ALIPHATIC HYDROCARBON:

Biodegradability : Result: Inherently biodegradable
Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

ALKANOL POLYALKOXYLATE:

Biodegradability : Biodegradation: 50 - 70 %
Exposure time: 28 d

Chemical Oxygen Demand (COD) : 2,170 mg/g
Method: Chemical oxygen demand

Dissolved organic carbon (DOC) : 540 mg/g

Bioaccumulative potential

Components:

No data available

Mobility in soil


Components:

No data available

Other adverse effects

No data available

Product:

 SOLENIS <small>Strong bonds. Trusted solutions.</small>		Page: 12
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.
 Do not contaminate ponds, waterways or ditches with chemical or used container.
 Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
 Dispose of as unused product.
 Empty containers should be taken to an approved waste handling site for recycling or disposal.
 Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods


U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

		Page: 13
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	yes
------------------	-----

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Acute Health Hazard


US State Regulations

Pennsylvania Right To Know

POLYMER	254504001-5181	0.00 - 0.00
ALIPHATIC HYDROCARBON	254504001-5164	0.00 - 0.00

Trade Secret Composition - Conceal the Identity +
Concentration

WATER	7732-18-5	0.00 - 0.00
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 SAFETY DATA SHEET		Page: 14
		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

New Jersey Right To Know

POLYMER	254504001-5181	0.00 - 0.00
ALIPHATIC HYDROCARBON	254504001-5164	0.00 - 0.00
ALKANOL POLYALKOXYLATE	254504001-5531	0.00 - 0.00
ESTER	254504001-5414	0.00 - 0.00
Trade Secret Composition - Conceal the Identity + Concentration		
WATER	7732-18-5	0.00 - 0.00

California Prop 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:


TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL.
AUSTR	: On the inventory, or in compliance with the inventory
NZIOC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECL	: On the inventory, or in compliance with the inventory
PHIL	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

Registration: Trade Secret

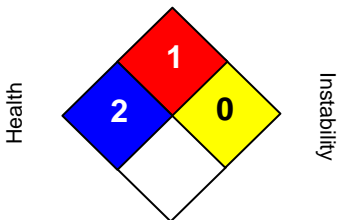
Chemical Name	Identification number
ALIPHATIC HYDROCARBON	254504001-5164
ALKANOL POLYALKOXYLATE	254504001-5531

		Page: 15
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

SECTION 16. OTHER INFORMATION

Further information

Revision Date: 05/23/2015

NFPA:	HMIS III:						
<p>Flammability</p>  <p>Health</p> <p>Instability</p> <p>Special hazard.</p>	<table border="1"> <tr> <td>HEALTH</td><td>2</td></tr> <tr> <td>FLAMMABILITY</td><td>1</td></tr> <tr> <td>PHYSICAL HAZARD</td><td>0</td></tr> </table> <p>0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	HEALTH	2	FLAMMABILITY	1	PHYSICAL HAZARD	0
HEALTH	2						
FLAMMABILITY	1						
PHYSICAL HAZARD	0						

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

Full text of H-Statements referred to under sections 2 and 3.

H227	Combustible liquid.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Sources of key data used to compile the Safety Data Sheet

Key literature references and sources of data

SOLENIS Internal data

SOLENIS internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.


The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

		Page: 16
SAFETY DATA SHEET		Revision Date: 05/23/2015
		Print Date: 6/9/2015
		SDS Number: R0357563
Praestol™ A 3040 LTR FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries 657216		Version: 1.2

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System



SAFETY DATA SHEET

INHIBITOR AZ8104

1. Identification

Product identifier INHIBITOR AZ8104
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	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/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 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
Chlorotolyltriazole sodium salt	202420-04-0	10 - 20
DICHLOROTOLYLTRIAZOLE	NOT ASSIGNED	2.5 - 10
Sodium 4(or 5)-methyl-1H-benzotriazolidine	64665-57-2	1 - 2.5
Sodium hydroxide	1310-73-2	1 - 2.5

*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 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. 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. 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. 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. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up 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.

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

Alkaline. Do not mix with acidic material. Do not breathe mist or vapor. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not get in eyes, on skin, or on clothing.

Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Store away from acids. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS). Store locked up. Keep only in the original container.

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

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. 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 1910.134 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.

pH (concentrated product) 12.7

pH in aqueous solution 11.6 (5% SOL.)

Melting point/freezing point 12 °F (-11 °C)

Initial boiling point and boiling range	210 °F (99 °C)
Flash point	Not applicable.
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	1.13
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	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	17 °F (-8 °C)
Specific gravity	1.132
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	May be corrosive to metals. May react violently with acidic materials.
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 acids. Strong oxidizing agents. Metals.
Hazardous decomposition products	Hydrogen chloride, 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.
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.
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Information on toxicological effects

Acute toxicity	May cause respiratory irritation.
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Product	Species	Test Results
INHIBITOR AZ8104 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 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
Chlorotolyltriazole sodium salt (CAS 202420-04-0)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	3100 mg/kg
DICHLOROTOLYLTRIAZOLE (CAS NOT ASSIGNED)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	3100 mg/kg
Sodium 4(or 5)-methyl-1H-benzotriazolidine (CAS 64665-57-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	735 mg/kg
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 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 AZ8104 (CAS Mixture)	LC50	Annelida(Lumbriculus variegatus)
		138 mg/L, Static Acute Bioassay, 96 hour
		Benthic Crustacean(Gammarus pseudolimnaeus)
		42.1 mg/L, Static Acute Bioassay, 96 hour
		Bluegill Sunfish
		36.6 mg/L, Static Acute Bioassay, 96 hour
		Ceriodaphnia
		124 mg/L, Static Renewal Bioassay, 48 hour
		Fathead Minnow
		135 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
	LOEL	50.7 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
		Freshwater Snail(Physa sp.)
		47.4 mg/L, Static Acute Bioassay, 96 hour
		Menidia beryllina (Silversides)
		41 mg/L, Static Acute Bioassay, 96 hour
		Midge larvae (Chironomus tentans)
		95.8 mg/L, Static Acute Bioassay, 96 hour
		Mysid Shrimp
		53 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
		Sheepshead Minnow
	NOEL	132 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
		40 mg/L, Chronic Bioassay, 7 day
	NOEL	Fathead Minnow
		8.3 mg/L, Chronic Flow-Thru Bioassay, 28 day, (pH adjusted)
	NOEL	Annelida(Lumbriculus variegatus)
		62.5 mg/L, Static Acute Bioassay, 96 hour
		Benthic Crustacean(Gammarus pseudolimnaeus)
		25 mg/L, Static Acute Bioassay, 96 hour
		Bluegill Sunfish
		25 mg/L, Static Acute Bioassay, 96 hour
		Ceriodaphnia
		75 mg/L, Static Renewal Bioassay, 48 hour
		20 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow
		21.8 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
		15 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
		4.2 mg/L, Chronic Flow-Thru Bioassay, 28 day, (pH adjusted)
		Freshwater Snail(Physa sp.)
		25 mg/L, Static Acute Bioassay, 96 hour
		Menidia beryllina (Silversides)
		25 mg/L, Static Acute Bioassay, 96 hour
		Midge larvae (Chironomus tentans)
		62.5 mg/L, Static Acute Bioassay, 96 hour
		Mysid Shrimp
		25 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
		Sheepshead Minnow
		100 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)

Product		Species	Test Results	
Aquatic	Crustacea	EC0	Daphnia magna	155 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
		EC50	Daphnia magna	210 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
				50 mg/L, Chronic Bioassay, 21 day, (pH adjusted)
		LC50	Daphnia magna	217 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
		NOEL	Daphnia magna	148 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
			27 mg/L, Chronic Bioassay, 21 day, (pH adjusted)	
	Fish	LC50	Rainbow Trout	15.4 mg/L, Static Renewal Bioassay, 96 hour
		NOEL	Rainbow Trout	6.3 mg/L, Static Renewal Bioassay, 96 hour

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 Nutrients: N: 13,3 mg/g

Persistence and degradability Testing has shown product not to be readily biodegradable.

- COD (mgO2/g)	300
- BOD 5 (mgO2/g)	15
- BOD 28 (mgO2/g)	15
- Closed Bottle Test (% Degradation in 28 days)	6
- Zahn-Wellens Test (% Degradation in 28 days)	0
- TOC (mg C/g)	100

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 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 UN1760

UN proper shipping name Corrosive liquids, n.o.s. (SODIUM HYDROXIDE, HALOGENATED AROMATIC HETEROCYCLE)
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 UN1760
UN proper shipping name Corrosive liquid, n.o.s. (SODIUM HYDROXIDE, HALOGENATED AROMATIC HETEROCYCLE)
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 UN1760
UN proper shipping name CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE, HALOGENATED AROMATIC HETEROCYCLE)
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
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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
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Safe Drinking Water Act (SDWA)	Not regulated.
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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. – 141530
	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 - 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 Oct-24-2014

Revision date Dec-17-2017

Version # 3.1

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
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).

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat BL122
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: **DANGER**

GHS Classification(s):
Corrosive to Metals – Category 1
Respiratory sensitization – Category 1
Sensitization Skin – Category 1
Skin corrosion/irritation – Category 2
Eye damage/irritation – Category 2a

Hazard Statement(s):
H290 May be corrosive to metals.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary Statement(s):

**Prevention:**

P234 Keep only in original container.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists, get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P390 Absorb spillage to prevent material damage.

Storage:

P406 Store in a corrosive resistant container with a resistant inner liner.

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 bisulfite	7631-90-5	15 – 40

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. Take off contaminated clothing and wash before re-use. If skin irritation occurs, seek 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: Use water spray to keep containers cool. 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. Reportable Quantity of the product is 1615 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 store below 30°F. Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required. Store in corrosive resistant container with a resistant liner.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium bisulfite	ACGIH TLV	5 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, Pink, Clear
Specific Gravity:	1.238 @ 20°C
pH:	4.2 @ 20°C, 100.0%
Freezing Point:	30°F
Flash Point:	N/D
Odor:	Strong
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Soluble
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:	10.32 LB/GA



Vapor Pressure:	32 mmHg @ 25C
% 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, Strong acids.
Hazardous Decomposition Products:	Oxides of sulfur.
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 bisulfite	Oral	LD50	2000 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium bisulfite	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
Fathead Minnow	96h	LC50	>1000 mg/l
Sheepshead Minnow	96h	LC50	100 mg/l
Ceriodaphnia dubia	48h	LC50	390.4 mg/l
Mysid Shrimp	24h	LC50	>1000 mg/l
	48h	LC50	>1000 mg/l
Inland Silverside	24h	LC50	>1000 mg/l
	96h	LC50	>1000 mg/l
Daphnia magna	48h	LC50	354 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	UN2693	BISULPHITES, AQUEOUS SOLUTIONS, N.O.S.	(SODIUM BISULFITE)	8	PGIII
Over 1615 GA	RQ UN2693	BISULPHITES, AQUEOUS SOLUTIONS, N.O.S.	(SODIUM BISULFITE)	8	PGIII
IMDG	UN2693	BISULPHITES, AQUEOUS SOLUTIONS, N.O.S.	(SODIUM BISULFITE)	8	PGIII
TDG	UN2693	BISULPHITES, AQUEOUS SOLUTIONS, N.O.S.	(SODIUM BISULFITE)	8	PGIII
ICAO	UN2693	BISULPHITES, AQUEOUS SOLUTIONS, N.O.S.	(SODIUM BISULFITE)	8	PGIII
SCT	UN2693	BISULPHITES, AQUEOUS SOLUTIONS, N.O.S.	(SODIUM BISULFITE)	8	PGIII

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 bisulfite	N/A	N/A	5000

Comments: None.

State Regulations

California Proposition 65:

This product may contain trace amounts of chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm. Sulfur dioxide

Special Regulations

Component	States
Sodium bisulfite	MA, MN, NY, PA, WA

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 is certified by the Orthodox Union as kosher pareve.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Eldridge, IA; Nederland, TX; Fontana, CA.

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:	ChemTreat BL197
Product Use:	Boiler Water Treatment Antifoam
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 7, 2017
Revision Date:	March 7, 2017
Revision Number:	17030701AN

Section 2. Hazard(s) Identification



Signal Word:	WARNING
GHS Classification(s):	Eye damage/irritation – Category 2b Skin corrosion/irritation – Category 2 Acute Toxicity Inhalation – Category 4 Acute Toxicity Oral – Category 4
Hazard Statement(s):	H320 Causes eye irritation. H315 Causes skin irritation. H332 Harmful if inhaled. H302 Harmful if swallowed.

Precautionary Statement(s):

Prevention:	P264 Wash thoroughly after handling. P270 Do not eat, drink, or smoke when using this product. P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection.
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**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment, see label.
P332 + P313 If skin irritation develops or persists, get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
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.

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. %
Polyalkylene glycol monobutyl ether	9038-95-3	10 – 30

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. Take off contaminated clothing and wash before re-use. If skin irritation occurs, seek medical advice/attention.
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:	Use water spray to keep containers cool.
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
Polyalkylene glycol monobutyl ether	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.
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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. Maintain quick-drench facilities in work area.

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:	1.023 @ 20°C
pH:	11.1 @ 20°C, 100.0%
Freezing Point:	32°F
Flash Point:	N/D
Odor:	Mild
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:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.53 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 acids.

Hazardous Decomposition Products: Oxides of carbon.

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
Polyalkylene glycol monobutyl ether	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
Fathead Minnow	96h	LC50	>1000 mg/l
Ceriodaphnia dubia	48h	LC50	>1000 mg/l
Mysid Shrimp	24h	LC50	>10000 mg/l
	48h	LC50	>10000 mg/l
Inland Silverside	24h	LC50	>10000 mg/l
	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.

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:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Polyalkylene glycol monobutyl ether	N/A	N/A	N/A

Comments: None.



State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Polyalkylene glycol monobutyl ether	None.

International Regulations

Canada

WHMIS Classification: D2B (Toxic Material)

Controlled Product Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Compliance Information

NSF: This product conforms to the requirements of the NSF Nonfood Compounds Registration Program, Registration #144228; Category G6, G7.

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 is certified by the Orthodox Union as Kosher for Passover and year-round use. Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX; Vernon, CA.

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: March 7, 2017



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SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat BL1559
Product Use:	Steam Line 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:	May 24, 2018
Revision Date:	May 24, 2018
Revision Number:	18052401AN

Section 2. Hazard(s) Identification



Signal Word: **DANGER**

GHS Classification(s):

- Skin corrosion/irritation – Category 1b
- Eye damage/irritation – Category 1
- Acute Toxicity Oral – Category 4
- Acute Toxicity Dermal – Category 4
- Flammable Liquids – Category 4
- Reproductive Toxicity – Category 2
- Sensitization Skin – Category 1

Hazard Statement(s):

- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H312 Harmful in contact with skin.
- H302 Harmful if swallowed.
- H227 Combustible Liquid.
- H317 May cause an allergic skin reaction.
- H361 Suspected of damaging fertility or the unborn child.

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.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P201 Obtain special instructions before use.
P263 Avoid contact during pregnancy and while nursing.
P264 Wash thoroughly after handling.

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
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.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use extinguishing media suitable to surrounding fire to extinguish.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P308 + P313 IF exposed or concerned: Get medical advice/attention.

Storage:

P405 Store locked up.
P403 Store in a well-ventilated place.

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. %
Cyclohexylamine	108-91-8	10 – 30
3-Methoxypropylamine	5332-73-0	10 – 30

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:	Product does not sustain combustion as described in 49 CFR 173, Appendix H.
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. Protect from heat and sources of ignition. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Cyclohexylamine	ACGIH TLV	41 mg/m ³ TWA
3-Methoxypropylamine	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, Colorless, Clear
Specific Gravity:	0.964 @ 20°C
pH:	13.1 @ 20°C, 100.0%
Freezing Point:	<-9°F
Flash Point:	>140°F
Odor:	Strong
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Miscible
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/A



Density:	8.04 LB/GA
Vapor Pressure:	<18 mmHg @ 20C
% VOC:	50
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
Cyclohexylamine	Oral	LD50	156 MG/KG	Rat
	Dermal	LD50	277 MG/KG	Rabbit
3-Methoxypropylamine	Oral	LD50	6260 MG/KG	Rat
	Oral	LD50	0.69 G/KG	Rat
	Dermal	LD50	>2 G/KG	Rabbit
	Oral	LD50	690 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Cyclohexylamine	ACGIH	TLV-A4	Not classifiable as a human carcinogen.
3-Methoxypropylamine	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	519.63 mg/l
Daphnia pulex	48h	LC50	277 mg/l
Fathead Minnow	96h	LC50	659.75 mg/l
	48h	LC50	1025 mg/l
Mysid Shrimp	24h	LC50	406 mg/l
	48h	LC50	330 mg/l
Inland Silverside	24h	LC50	637 mg/l
	96h	LC50	470 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 ignitibility characteristic hazardous waste D001 when disposed of in the original product form.
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	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S.	(CYCLOHEXYLAMINE AND 3-METHOXYPROPYLAMINE)	8	PGII
IMDG	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S.	(CYCLOHEXYLAMINE AND 3-METHOXYPROPYLAMINE)	8	PGII
ICAO	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S.	(CYCLOHEXYLAMINE AND 3-METHOXYPROPYLAMINE)	8	PGII
SCT	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S.	(CYCLOHEXYLAMINE AND 3-METHOXYPROPYLAMINE)	8	PGII
TDG	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S.	(CYCLOHEXYLAMINE AND 3-METHOXYPROPYLAMINE)	8	PGII

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:	Yes
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
Cyclohexylamine	N/A	10000	N/A
3-Methoxypropylamine	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Cyclohexylamine	MA, MN, NJ, NY, PA, WA
3-Methoxypropylamine	MN, PA

International Regulations

Canada

WHMIS Classification: D2B (Toxic Material)
E (Corrosive Material)

Controlled Product Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.



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

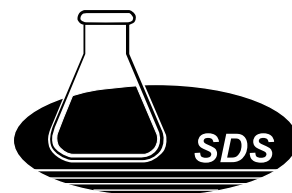
HMIS Hazard Rating

Health:	2
Flammability:	2
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: May 24, 2018

Disclaimer

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Safety Data Sheet



1. Identification

Product Name: BL2453

Recommended Use: Boiler 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

SKIN CORROSION - CATEGORY 1B	H314	Causes severe skin burns and eye damage.
SERIOUS EYE DAMAGE - CATEGORY 1	H318	Causes serious eye damage.

PRECAUTIONARY STATEMENTS

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
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.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment is possible (refer to label).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Statements
Potassium hydroxide	1310-58-3	5 - 10	H301-314-318
Potassium pyrophosphate	7320-34-5	5 - 10	H319-332
Tetrasodium ethylenediaminetetraacetate	64-02-8	3 - 5	H302-318

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: Keep container tightly closed. Wear personal protection equipment. Avoid contact with eyes, skin or clothing. Wash hands 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
Potassium hydroxide	N.E.	N.E.	N.E.	N.E.
Potassium pyrophosphate	N.E.	N.E.	N.E.	N.E.
Tetrasodium ethylenediaminetetraacetate	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:	Amber
Physical State:	Liquid	Odor:	Mild
Density, lb/gal:	9.92	Specific gravity, 20°C	1.190
Freeze Point, °C:	-2	pH:	13.80
Solubility in Water:	Soluble	Viscosity:	0 - 200 cps
Boiling Range, °C:	No Information	Flash Point, °C:	93
Volatile Organic Compounds, gr/ltr:	No Information	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
1310-58-3	Potassium hydroxide	284 mg/kg Rat	>2001	>200001
7320-34-5	Potassium pyrophosphate	N.I.	>2000 mg/kg Rabbit	N.I.
64-02-8	Tetrasodium ethylenediaminetetraacetate	1658 mg/kg Rat	N.I.	N.I.

N.I. = No Information

12. Ecological Information

Ecological Information: 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 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.

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:	UN1760
Proper Shipping Name:	CORROSIVE LIQUIDS, N.O.S.
Technical Name:	(POTASSIUM HYDROXIDE AND EDTA TETRASODIUM 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	18215 lbs (Potassium hydroxide)
ERG Code:	154

IATA

UN Number:	UN1760
Proper Shipping Name:	CORROSIVE LIQUIDS, N.O.S.
Technical Name:	(POTASSIUM HYDROXIDE AND EDTA TETRASODIUM SALT)
Hazard Class(es)	
Class:	8
Subsidiary Risk:	N/A
Packing Group:	PGII
Environmental Hazards:	No
ERG Code:	8L

IMDG

UN Number:	UN1760
Proper Shipping Name:	CORROSIVE LIQUIDS, N.O.S.
Technical Name:	(POTASSIUM HYDROXIDE AND EDTA TETRASODIUM 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.
Potassium hydroxide	1310-58-3
Sodium hydroxide	1310-73-2

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely Hazardous Substances**

Chemical Name	CAS-No.	Threshold
Potassium hydroxide	1310-58-3	1000 lb

SARA 304 Emergency Release Notification

Chemical Name	CAS-No.
Potassium hydroxide	1310-58-3
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	No
ENCS	Japan Existing and New Chemical Substances	Yes
IECSC	China Inventory of Existing Chemical Substances	Yes
KECI	Korean Existing and Evaluated Chemical Substances	Yes
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).

Compliance Information**Kosher**

This product is Kosher certified for Pareve by the Orthodox Union.

**Food Regulations**

FDA: All ingredients in this product are authorized for use in the following CFR section(s):
21 CFR 173.310

16. Other Information

Revision Date: 11/4/2024
Reason for revision: No Information
Datasheet produced by: productcompliance@chemtreat.com

HMIS Ratings:

Health:	3	Flammability:	1	Reactivity:	0	Personal Protection:	X
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Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

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

1. Identification

Product identifier CL41
Other means of identification
Product code CL41
Recommended use Cooling Water Microbiocide
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 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 40% of the mixture consists of component(s) of unknown acute oral toxicity. 40% of the mixture consists of component(s) of unknown acute dermal toxicity. 40% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium bromide		7647-15-6	40 - < 50
Other components below reportable levels			60 - < 70

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. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>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.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
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).
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

Physical state	Liquid.
Form	Liquid. Liquid
Color	Not available.

Odor Odorless

Odor threshold Not available.

pH 7.5

Melting point/freezing point 1391 °F (755 °C) estimated / < -11.20 °F (< -24.00 °C) <

Initial boiling point and boiling range 2534 °F (1390 °C) estimated

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 0.00001 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 - 100 cps

Other information

Density 11.94 lbs/gal

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

Pounds per gallon 11.94

Specific gravity 1.38 - 1.44 @ 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 No dangerous reaction known under conditions of normal use.

Conditions to avoid 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	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
CL41			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	7650 mg/l, 48 hours
		Opossum shrimp order (Mysida)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 10000 mg/l, 96 hours
		Sheepshead minnow (Cyprinodon variegatus)	> 10000 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.
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**

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)*
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

Eldridge IA
Ashland VA
Eldridge IA
Nederland TX
Fontana CA

**Compliance Information: Biocide Regulation**

PMRA biocide registration NO. 30146. Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300-26.

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

Issue date 10-27-2022

Version # 01

HMIS® ratings Health: 0
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

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL49
Product Use:	Cooling Water Microbiocide
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: DANGER

GHS Classification(s): Skin corrosion/irritation – Category 1a
Hazardous to the aquatic environment Acute – Category 2
Hazardous to the Aquatic Environment Chronic – Category 2
Corrosive to Metals – Category 1

Hazard Statement(s): H314 Causes severe skin burns and eye damage.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H290 May be corrosive to metals.

Precautionary Statement(s):

Prevention: P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release into the environment.
P234 Keep only in original container.

**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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.
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P391 Collect spillage.
P390 Absorb spillage to prevent material damage.
P310 Immediately call a POISON CENTER/doctor.

Storage:

P405 Store locked up.
P406 Store in a corrosive resistant container with a resistant inner liner.

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 chlorosulfamate	17172-27-9	5 – 10
Sodium bromosulfamate	134509-56-1	7 – 13
Sodium hydroxide	1310-73-2	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:	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:	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:	Probable mucosal damage may contraindicate the use of gastric lavage. Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

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:	Thermal decomposition releases bromine and chlorine.
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:	This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
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. Reportable Quantity of the product is 901 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 in corrosive resistant container with a resistant liner. Do not store or handle in aluminum, steel, copper, or their alloys. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium chlorosulfamate	N/E	N/E
Sodium bromosulfamate	N/E	N/E
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:** Wear appropriate chemical resistant gloves.
- Respiratory:** None needed under normal conditions of use.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Dark Straw, Clear
Specific Gravity:	1.331 @ 20°C
pH:	13.6 @ 20°C, 100.0%
Freezing Point:	32°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	214 – 216°F
Solubility in Water:	Miscible
Evaporation Rate:	N/D
Vapor Density:	N/A
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	11.10 LB/GA
Vapor Pressure:	19 mmHg @ 25C
% VOC:	0
Odor Threshold	N/D



n-octanol Partition Coefficient
Decomposition Temperature

N/D
N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Acids, Strong oxidizers, Reducing agents, Aluminum/aluminum alloys, Aldehydes, Alcohols, Metals or metal oxides, Copper/copper alloys, Iron.
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 CL49	Oral	LD50	2491 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium chlorosulfamate	N/E	N/E	N/E
Sodium bromosulfamate	N/E	N/E	N/E
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
Daphnia magna	48h	EC50	4.8 mg/l
Bluegill Sunfish	96h	LC50	3.8 mg/l
Algae	96h	IC50	2.6 mg/l
Fathead Minnow	48h	LC50	8.5 mg/l
Daphnia pulex	48h	LC50	6.2 mg/l
Mysid Shrimp	24h	LC50	196 mg/l
	48h	LC50	48 mg/l
Inland Silverside	24h	LC50	8.7 mg/l
	96h	LC50	8.9 mg/l
Sheepshead Minnow	96h	LC50	36.4 mg/l
Ceriodaphnia dubia	48h	LC50	4.8 mg/l
	7d	IC25	6.2 mg/l

Species	Duration	Type of Effect	Test Results
	7d	NOEC	10 mg/l
	7d	LOEC	>10 mg/l
Fathead Minnow	7d	IC25	3.9 mg/l
	7d	LOEC	5 mg/l
	7d	NOEC	2.5 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

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities. 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	UN3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	(HALOGENATED COMPLEX, SODIUM HYDROXIDE)	8	PGIII
Over 901 GA	RQ UN3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	(HALOGENATED COMPLEX, SODIUM HYDROXIDE)	8	PGIII
IMDG	UN3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	(HALOGENATED COMPLEX, SODIUM HYDROXIDE)	8	PGIII
TDG	UN3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	(HALOGENATED COMPLEX, SODIUM HYDROXIDE)	8	PGIII
ICAO	UN3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	(HALOGENATED COMPLEX, SODIUM HYDROXIDE)	8	PGIII

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

Exempt from TSCA inventory
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 chlorosulfamate	N/A	N/A	N/A
Sodium bromosulfamate	N/A	N/A	N/A
Sodium hydroxide	N/A	N/A	1000

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium chlorosulfamate	None.
Sodium bromosulfamate	None.
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 for Passover and year-round use. Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX; Fontana, CA.
Halal:	This product has not been evaluated for Halal approval.
FIFRA:	Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 3377-55-15300.
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
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



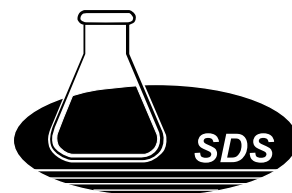
Abbreviation	Definition
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

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 CL1429
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:	March 7, 2017
Revision Date:	March 7, 2017
Revision Number:	17030701AN

Section 2. Hazard(s) Identification



Signal Word:	WARNING
GHS Classification(s):	Eye damage/irritation – Category 2b Skin corrosion/irritation – Category 2 Acute Toxicity Inhalation – Category 4 Acute Toxicity Oral – Category 4
Hazard Statement(s):	H320 Causes eye irritation. H315 Causes skin irritation. H332 Harmful if inhaled. H302 Harmful if swallowed.
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. %
Potassium phosphate, dibasic	7758-11-4	3 – 7
Tetrapotassium pyrophosphate	7320-34-5	10 – 30

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. Take off contaminated clothing and wash before re-use. If skin irritation occurs, seek medical advice/attention.

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:	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
Potassium phosphate, dibasic	N/E	N/E
Tetrapotassium pyrophosphate	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, Colorless, Clear
Specific Gravity:	1.235 @ 20°C
pH:	8.0 @ 20°C, 100.0%
Freezing Point:	25°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:	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:	10.30 LB/GA
Vapor Pressure:	<17.5
% 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, Strong acids, Cationic polymers.
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
Tetrapotassium pyrophosphate	Oral	LD50	2980 MG/KG	Rat
	Dermal	LD50	>7940 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Potassium phosphate, dibasic	N/E	N/E	N/E
Tetrapotassium pyrophosphate	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
Fathead Minnow	96h	LC50	2106 mg/l
	7d	IC25	1077 mg/l
	7d	NOEC	1000 mg/l
	7d	LOEC	2000 mg/l
Ceriodaphnia dubia	48h	LC50	1105 mg/l
	7d	IC25	285 mg/l
	7d	NOEC	500 mg/l
	7d	LOEC	1000 mg/l
Mysid Shrimp	24h	LC50	1704 mg/l
	48h	LC50	1704 mg/l
Inland Silverside	24h	LC50	>2000 mg/l
	96h	LC50	>2000 mg/l



Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: NOEC effect = Survival

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
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/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
Potassium phosphate, dibasic	N/A	N/A	N/A
Tetrapotassium pyrophosphate	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Potassium phosphate, dibasic	None.
Tetrapotassium pyrophosphate	None.

International Regulations

Canada

WHMIS Classification: D2B (Toxic Material)

Controlled Product Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.



Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher 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: March 7, 2017

Disclaimer

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SAFETY DATA SHEET

1. Identification

Product identifier CL2150

Other means of identification

Product code CL2150

Recommended use Cooling Water Microbiocide and Paper Slimicide

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 Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Sensitization, skin Category 1A

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 Warning

Hazard statement Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Avoid breathing mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves.

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/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

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 None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
5-chlor-2-methyl-4-isothiazolin-3-one		26172-55-4	< 1
2-methyl-4- Isothiazolin-3-one		2682-20-4	< 0.2
Other components below reportable levels			90 - 100

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
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. 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. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. 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. 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. Avoid breathing 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.
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	Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. 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

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.

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. 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). Face shield is recommended.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Green
Odor	Mild
Odor threshold	Not available.
pH	3.6 @ 100%
Melting point/freezing point	44.60 °F (7.00 °C)
Initial boiling point and boiling range	211.95 °F (99.97 °C) estimated
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	0.00001 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	
Density	8.55 lbs/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	8.55
Specific gravity	1.02 - 1.03 @ 20C
VOC	0.1 %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	Hazardous polymerization does not occur.
Conditions to avoid	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	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
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Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
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.
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Carcinogenicity	Not classifiable as to carcinogenicity to humans.
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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.
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Specific target organ toxicity - single exposure	Not classified.
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	Harmful to aquatic life with long lasting effects.		
Product		Species	Test Results
CL2150			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	18.1 mg/l, 48 hours
		Daphnia magna	10.7 mg/l, 48 hours
		Daphnia pulex	17 mg/l, 48 hours
		Opossum shrimp order (Mysida)	46.1 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	18.6 mg/l, 96 hours
		Fathead minnow (Pimephales promelas)	8.7 mg/l, 48 hours
		Rainbow Trout	12.6 mg/l, 96 hours
		Sheepshead minnow (Cyprinodon variegatus)	70.7 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

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUIDS, N.O.S. (5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB1, T11, TP2, TP27
Packaging exceptions	154
Packaging non bulk	202

Packaging bulk	242
IATA	
UN number	UN1760
UN proper shipping name	CORROSIVE LIQUIDS, N.O.S. (5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
IMDG	
UN number	UN1760
UN proper shipping name	CORROSIVE LIQUIDS, N.O.S. (5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
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)

2-methyl-4- Isothiazolin-3-one (CAS 2682-20-4)	1.0 % One-Time Export Notification only.
5-chloro-2-methyl-4-isothiazolin-3-one (CAS 26172-55-4)	1.0 % One-Time Export Notification only.

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

Classified hazard categories	Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization
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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
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 Union as Kosher pareve

Eldridge IA
Ashland VA
Nederland TX
Fontana CA

**Compliance Information: Biocide Regulation**

Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300-24.

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

Issue date 09-29-2022

Version # 01

HMIS® ratings Health: 3
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

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL2212
Product Use:	Cooling Water Microbiocide and Paper Slimicide
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:

DANGER

GHS Classification(s):

Acute Toxicity Oral – Category 3
Acute Toxicity Inhalation – Category 2
Skin corrosion/irritation – Category 1a
Eye damage/irritation – Category 1
Respiratory sensitization – Category 1
Sensitization Skin – Category 1
Specific Target Organ Toxicity – Single Exposure – Category 3
Hazardous to the aquatic environment Acute – Category 3

Hazard Statement(s):

H301 Toxic if swallowed.
H330 Fatal if inhaled.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H402 Harmful to aquatic life.

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.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
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 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. %
Glutaraldehyde	111-30-8	50

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 victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

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. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

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: This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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 in corrosive resistant container with a resistant liner. Protect from heat and sources of ignition. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Glutaraldehyde	ACGIH TLV	0.05 ppm Ceiling

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, Colorless, Clear
Specific Gravity:	1.127 @ 20°C
pH:	3.6 @ 20°C, 100.0%
Freezing Point:	12.2°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	213°F
Solubility in Water:	Complete
Evaporation Rate:	1.0
Vapor Density:	1.1
Molecular Weight:	N/D
Viscosity:	N/D
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.40 LB/GA



Vapor Pressure:	0.20
% 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, Strong bases.

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

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 CL2212	Oral	LD50	143 – 158 MG/KG	Rat
	Inhalation	LC50	0.48 MG/L	Rat
	Dermal	LD50	>2000 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Glutaraldehyde	ACGIH	TLV-A4	Not classifiable as a human carcinogen.
	MAK	MAK-4	Carcinogenic potential for which genotoxicity plays no role—no significant human risk

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
Fathead Minnow	96h	LC50	37.945 mg/l
Ceriodaphnia dubia	48h	LC50	15.59 mg/l
Bacterial toxicity	17h	EC10	8.8 mg/l
Golden Orfe	96h	LC50	10 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

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN2922	CORROSIVE LIQUIDS, TOXIC, N.O.S.	(GLUTARALDEHYDE)	8, 6.1	PGII
IMDG	UN2922	CORROSIVE LIQUIDS, TOXIC, N.O.S.	(GLUTARALDEHYDE)	8, 6.1	PGII
TDG	UN2922	CORROSIVE LIQUIDS, TOXIC, N.O.S.	(GLUTARALDEHYDE)	8, 6.1	PGII
ICAO	UN2922	CORROSIVE LIQUIDS, TOXIC, N.O.S.	(GLUTARALDEHYDE)	8, 6.1	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
Glutaraldehyde	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Glutaraldehyde	CA, ID, MA, MN, PA, WA, WI

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as kosher pareve.
This product is certified as Kosher for Passover and year-round use.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Eldridge, IA; Nederland, TX; Fontana, CA.

Halal: This product has not been evaluated for Halal approval.

FIFRA: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300-28.

Other: PMRA biocide registration NO. 30490.



Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
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.

1. Identification

Product identifier CL5631

Other means of identification

Product code CL5631

Recommended use Scale and Corrosion Inhibitor

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 Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Do not breathe mist/vapors. 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.

Storage 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 12.9% of the mixture consists of component(s) of unknown acute oral toxicity. 11.05% of the mixture consists of component(s) of unknown acute dermal toxicity. 18.9% of the mixture consists of component(s) of unknown acute inhalation toxicity. 7.05% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide (Caustic soda)		1310-73-2	5 - < 10

Chemical name	Common name and synonyms	CAS number	%
1h-benzotriazole, C-chloro-c-methyl-, Sodium Salt (1:1)		202420-04-0	1 - < 3
TRADE SECRET*		Proprietary*	1 - < 3
Other components below reportable levels			80 - < 90

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	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	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	Do not breathe mist/vapors. 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 tightly closed container. 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. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (Caustic soda) (CAS 1310-73-2)	PEL	2 mg/m ³
TRADE SECRET	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sodium hydroxide (Caustic soda) (CAS 1310-73-2)	Ceiling	2 mg/m ³	
TRADE SECRET	TWA	2 mg/m ³	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (Caustic soda) (CAS 1310-73-2)	Ceiling	2 mg/m ³
TRADE SECRET	TWA	2 mg/m ³

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 Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant 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.
Color	Amber
Odor	Mild
Odor threshold	Not available.
pH	13.3
Melting point/freezing point	30.02 °F (-1.10 °C)
Initial boiling point and boiling range	210.2 °F (99 °C) estimated
Flash point	212.0 °F (100.0 °C) estimated
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	0.00001 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	Not available.
Other information	
Density	9.63 lbs/gal
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	77.69 % estimated
Pounds per gallon	9.63 lbs/gal
Specific gravity	1.16
VOC	0.04 % estimated

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
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. Do not mix with other chemicals.
Incompatible materials	Strong acids. Oxidizing agents.
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.
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Information on toxicological effects

Acute toxicity	Not known.
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	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.
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	
CL5631			
Aquatic			
<i>Acute</i>			
Crustacea	LC50	Water flea (Ceriodaphnia dubia)	980.7 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	353.6 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential			
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. 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 (Caustic soda) RQ = 1366 GAL and CHLOROTOLYLTRIAZOLE SODIUM SALT)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
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	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide (Caustic soda) and CHLOROTOLYLTRIAZOLE SODIUM SALT)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide (Caustic soda) and CHLOROTOLYLTRIAZOLE SODIUM SALT)
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.

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)

Sodium hydroxide (Caustic soda) (CAS 1310-73-2) 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

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.

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))

Sodium hydroxide (Caustic soda) (CAS 1310-73-2)

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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

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).

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

Issue date	09-25-2020
Revision date	03-16-2021
Version #	02
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: B
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.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Other information	Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

1. Identification

Product identifier CL8741

Other means of identification

Product code CL8741

Recommended use Cooling Water 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 Not classified.

Health hazards Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Do not breathe mist/vapors. 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.

Storage 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	%
Sodium hydroxide		1310-73-2	5 - < 15

Chemical name	Common name and synonyms	CAS number	%
Chlorotolyltriazole sodium salt		202420-04-0	1 - < 3
Other components below reportable levels			80 - < 90

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 (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. 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	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	Do not breathe mist/vapors. 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 tightly closed container. 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. 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

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 Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant 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

Physical state Liquid.

Form Liquid.

Color Amber.

Odor Mild

Odor threshold Not available.

pH 12.5 - 14

Melting point/freezing point 20.48 °F (-6.40 °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	Not available.
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	10.34
Specific gravity	1.23 - 1.25 @ 20C

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
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. Do not mix with other chemicals.
Incompatible materials	Strong acids. Oxidizing agents.
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.
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Information on toxicological effects

Acute toxicity	Not known.
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	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.
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
CL8741			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	>100 mg/l, 72 hours estimated
Crustacea	EC50	Daphnia	>100 mg/l, 48 hours estimated
Fish	LC50	Fish	>100 mg/l, 96 hours estimated
Components		Species	Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

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. 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)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
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	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	No.
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)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
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)

Sodium hydroxide (CAS 1310-73-2) 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** 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.**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))

Sodium hydroxide (CAS 1310-73-2)

International Inventories

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).

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

Issue date	08-25-2021
Revision date	03-06-2023
Version #	04
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.

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 CT708
Product Use:	Potable 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 23, 2018
Revision Date:	July 23, 2018
Revision Number:	18072301AN

Section 2. Hazard(s) Identification

Signal Word:	WARNING
GHS Classification(s):	Eye damage/irritation – Category 2b
Hazard Statement(s):	H320 Causes eye irritation.
Precautionary Statement(s):	
Prevention:	P264 Wash thoroughly after handling.
Response:	P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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. %
Sodium hexametaphosphate	10124-56-8	15 – 40

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: Use water spray to keep containers cool.

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:	Avoid generating dust. Contain and/or absorb spill with inert material then place in suitable container.
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
Sodium hexametaphosphate	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.
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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, Colorless, Clear
Specific Gravity:	1.282 @ 20°C
pH:	5.7 @ 20°C, 100.0%
Freezing Point:	34°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:	<1
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:	10.69 LB/GA
Vapor Pressure:	<17.5
% 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:	Food sugars. Deadly carbon monoxide gas can form in enclosed or poorly ventilated areas or tanks when alkaline products contact food, beverage, or dairy products.
Hazardous Decomposition Products:	Oxides of sodium, 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
Sodium hexametaphosphate	Oral	LD50	3053 MG/KG	Rat
	Oral	LD50	4320 MG/KG	Mouse
	Dermal	LD50	>7940 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium hexametaphosphate	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
Mysid Shrimp	24h	LC50	>10000 mg/l
	48h	LC50	>10000 mg/l
Inland Silverside	24h	LC50	>10000 mg/l
	96h	LC50	>10000 mg/l
Ceriodaphnia dubia	48h	LC50	908 mg/l
Fathead Minnow	96h	LC50	824 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	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
ICAO	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

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:	Yes



Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium hexametaphosphate	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium hexametaphosphate	MA, NY, PA

Compliance Information

NSF: Certified to NSF/ANSI Standard 60
Maximum use rate for potable water – 37 mg/L
This product ships as NSF from:
Eldridge, IA
Nederland, TX
Ashland, VA
Facility #32 USA

Food Regulations: FDA: Generally Recognized as Safe (GRAS) by the
FDA at 21 CFR 182.6760

KOSHER: This product is certified by the Orthodox Union as Kosher
for Passover and year-round use.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Eldridge, IA; Nederland, TX; Fontana, CA.

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: July 23, 2018



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 P817E
Product Use:	Water Clarification/Solids Conditioning Agent
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 26, 2019
Revision Date:	March 26, 2019
Revision Number:	19032601AN

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 becomes slippery when wet.

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. Material is very slippery if spilled.
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 below 41°F. Do not store above 86°F. 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.
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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 Emulsion, White, Opaque
Specific Gravity:	1.072 @ 20°C
pH:	6.0 – 8.0 @ 20°C, 100.0%
Freezing Point:	32°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
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:	8.94 LB/GA
Vapor Pressure:	0 mmHg @ 20C
% 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.
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
ChemTreat P817E	Oral	LD50	>5000 MG/KG	Rat
	Dermal	LD50	>5000 MG/KG	Rat

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
Algae	72h	IC50	>100 mg/l
Daphnia magna	48h	EC50	>100 mg/l
Mysid Shrimp	48h	LC50	6.8 mg/l
Inland Silverside	96h	LC50	320 mg/l
Ceriodaphnia dubia	48h	LC50	0.58 mg/l
Fathead Minnow	96h	LC50	104 mg/l
	48h	LC50	287 mg/l
Daphnia pulex	48h	LC50	0.21 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

**Comments:**

Water clarification polymers function by multipoint adsorption and charge neutralization with suspended solids. Polymers inherently migrate with solids in the separation process and with the exception of uneconomic overdose do not remain in the clarified waters. Aquatic toxicity determinations in test method protocol waters without suspended solids overestimate the toxicity compared to natural receiving waters.

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
ICAO	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

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:	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:

WARNING: This product can expose you to chemicals including Acrylamide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF:

Certified to NSF/ANSI Standard 60
Maximum use rate for potable water – 3 mg/L
Facility #6 USA

Food Regulations:

FDA: Complies with 21 CFR 176.170 and 21 CFR 176.180 for use in paper and paperboard which contacts 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:	1
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

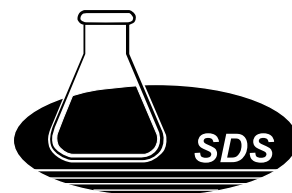
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user 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
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: March 26, 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:	paperpro® PG906
Product Use:	Retention and Drainage Aid/Paper Process Additive
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:	May 9, 2016
Revision Date:	May 9, 2016
Revision Number:	16050901AN

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. Material is very slippery if spilled.
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. Protect from heat and sources of ignition. 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.
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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 Emulsion, Straw, Opaque
Specific Gravity:	1.038 @ 20°C
pH:	N/A
Freezing Point:	32°F
Flash Point:	>212°F
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<1500 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.66 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.
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
paperpro® PG906	Oral	LD50	>5000 MG/KG	Rat

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
Fathead Minnow	96h	LC50	28.942 mg/l
Ceriodaphnia dubia	48h	LC50	0.625 mg/l
Mysid Shrimp	48h	LC50	4.6 mg/l
Inland Silverside	96h	LC50	92 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Water clarification polymers function by multipoint adsorption and charge neutralization with suspended solids. Polymers inherently migrate with solids in the separation process and with the exception of uneconomic overdose do not remain in the clarified waters. Aquatic toxicity determinations in test method protocol waters without suspended solids overestimate the toxicity compared to natural receiving waters.

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
ICAO	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

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:	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: This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm: residual acrylamide.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

International Regulations

Canada

WHMIS Classification: N/A

Controlled Product Regulations (CPR): N/A



Compliance Information

NSF:	N/A
Food Regulations:	FDA: All ingredients in this product are authorized in 21 CFR 176.170 and 21 CFR 176.180.
KOSHER:	This product has not been evaluated for Kosher approval.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
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
TWA	Time Weight Average



Abbreviation	Definition
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: May 9, 2016

Disclaimer

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SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Venpure* Solution

Synonyms:

Sodium Borohydride Solution

Chemical Abstracts Registry No: Mixture

REACH Registration Number: 01-2119485016-39-0001 (for sodium tetrahydroborate)
01-2119457892-27-0164 (for sodium hydroxide)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Reagent in chemicals purification, reagent in fine chemicals synthesis, bleaching agent.

1.3. Details of the supplier of the safety data sheet

Vertellus Performance Chemicals LLC
4800 State Route 12
Elma, Washington 98541
1-360-482-4350

EU REACH Registrant:

Vertellus Specialties Belgium NV
Haven 611, Tijsmanstunnel West 3
Antwerp 2040 Belgium
Phone: +32 3 250-6188

e-mail Address:

sds@vertellus.com

1.4. Emergency telephone number

Vertellus: 1-317-247-8141

CHEMTREC (USA): 1-800-424-9300 (collect calls accepted)

CHEMTREC (International): 1-703-527-3887 (collect calls accepted)

NRCC (China): +86 532 83889090

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

(According to Regulation (EC) No 1272/2008, 29 CFR 1910.1200 and the Globally Harmonized System)

Skin Corrosion Category 1B
Serious Eye Damage Category 1
Acute Toxicity Oral Category 3
Reproductive Toxicity Category 1B
Corrosive to Metals Category 1

SAFETY DATA SHEET

2.2. Label elements

Hazard Symbols
(Pictogram):



Signal Word:

Danger

Hazard Precautions:

H314 - Causes severe skin burns and eye damage.
H301 - Toxic if swallowed.
H360FD - May damage fertility. May damage the unborn child.
H290 - May be corrosive to metals.

Prevention Precautionary
Statements:

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P201 - Obtain special instructions before use.
P234 - Keep only in original container.

First Aid Precautionary
Statements:

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.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material damage.

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (weight %)	EC Number	CLP Inventory/ Annex VI	EU CLP Classification (1272/2008)
Sodium hydroxide	1310-73-2	30.0 – 40.4	215-185-5	011-002-00-6	Skin Corr. 1A; H314
Sodium borohydride	16940-66-2	11.5 – 12.4	241-004-4	Not listed	Water-react. 1; H260 Skin Corr. 1C; H314 Eye Dam. 1; H318 Acute Tox. 3; H301 Repr. 1B; H360FD

NOTE: See Section 8 for exposure limit data for these ingredients. See Section 15 for trade secret information (where applicable). See Section 16 for the full text of the R-phrases above.

SAFETY DATA SHEET

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact:	Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately from other articles before reuse. Do NOT take contaminated clothing home.
Eye Contact:	Immediately flush eyes with plenty of water for at least 20 minutes. Get immediate medical attention. Hold eyelids apart periodically while flushing. Continue to rinse until medical personnel arrive.
Inhalation:	Remove from exposure. If not breathing, give artificial respiration and call a physician.
Ingestion:	Do NOT induce vomiting. Immediately give 1 or 2 glasses of water and get prompt medical attention. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Acute:	Sodium borohydride solutions are corrosive to eyes, skin and mucous membranes. Toxic upon ingestion.
Delayed Effects:	None known.

4.3. Indication of any immediate medical attention and special treatment needed

Note to Physician:	Eye irrigation may be necessary for an extended period of time to remove as much caustic as possible. Duration of irrigation and treatment is at the discretion of medical personnel. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media:	Will not burn, no special instructions available. Use methods appropriate for surrounding materials.
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5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion:	Not combustible
Potential for Dust Explosion:	Not applicable.
Special Flammability Hazards:	Heat, strong acids or dilution with large volumes of water can form hydrogen gas. Hydrogen is extremely flammable and can form explosive mixtures with air.

5.3. Advice for firefighters

Basic Fire Fighting Guidance:	Wear self-contained breathing apparatus and full protective clothing (i.e., Bunker gear). Skin and eye contact must be avoided due to corrosivity. Normal fire fighting procedures may be used.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures:	Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
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SAFETY DATA SHEET

Special Instructions: See Section 8 for personal protective equipment recommendations. Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers and waterways.

6.3. Methods and material for containment and cleaning up

Remove all ignition sources. Ventilate the area of spill or leak. Wear protective equipment during clean-up. Non-sparking tools should be used. Store in a container equipped with a vent. Contain spilled liquid with sand or vermiculite and place in chemical waste container. Prevent runoff from entering drains, sewers, and streams. Dispose of contents & container in accordance with local, regional, national or international regulations.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards: Sodium borohydride solutions can liberate flammable hydrogen gas upon contact with acids, oxidizing agents, transition metals or water.

Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors or dust clouds.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations: Store in a tightly closed container. Store in a cool dry place. Do not store near acids. Store at room temperature (2 - 38°C) in the original container. Do not store this material in containers made of glass or aluminum. Electrically bond and ground all containers and equipment before transfer or use of material. Sodium borohydride solutions can liberate flammable hydrogen gas upon contact with acids, oxidizing agents, transition metals or water. It is recommended that containers be checked periodically for pressure build up, which may occur during transport and long-term storage under adverse conditions. Allow 10% free volume in closed containers.

Dangerous Incompatibility Reactions: Avoid water, acids, metals, glass, aluminum, copper, zinc, oxidizing agents, alcohols and metal salts (such as Ni²⁺, Co²⁺, etc.)

Incompatibilities with Materials of Construction: Glass and aluminum

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SAFETY DATA SHEET

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Country	Occupational Exposure Limit
Austria, Belgium, Denmark, France, Hungary, Spain, Switzerland, USA-OSHA	Sodium Hydroxide: 2 mg/m ³ as an 8-hour time-weighted average
Australia, Canada, China, New Zealand, South Korea, USA-NIOSH, USA-ACGIH	Sodium Hydroxide: 2 mg/m ³ as ceiling limit
Ireland, Singapore, United Kingdom	Sodium Hydroxide: 2 mg/m ³ as a 15-minute short-term exposure limit
Latvia, Poland	Sodium Hydroxide: 0.5 mg/m ³ as an 8-hour time-weighted average
Sweden	Sodium Hydroxide: 1 mg/m ³ as an 8-hour time-weighted average; 2 mg/m ³ ceiling limit

Air Monitoring Method: Collection Media: Polytetrafluorethylene (PTFE) membrane filter; Analysis Method: titrimetric analysis

8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Other Engineering Controls: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

Personal Protective Equipment: Chemical goggles. Chemical resistant gloves (butyl rubber, chlorinated polyethylene, natural rubber ("latex"), neoprene, nitrile/butadiene rubber ("nitrile"), polyethylene, ethyl vinyl alcohol laminate ("EVAL"), polyvinyl chloride ("PVC" or "vinyl"), styrene/butadiene rubber, Viton®.); a thickness greater than 0.38 mm is recommended. Avoid gloves made of Polyvinyl alcohol ("PVA"). Chemically resistant protective clothing such as face shield, boots, apron, or full body suit, depending on the exposure potential. Nationally approved air-purifying respirator with highly toxic particulate filters (HEPA filters). P2 filter required when aerosols can be formed for cleaning operations if >1 hour in duration.

Respirator Caution: Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

Thermal Hazards: Not applicable.

Environmental Exposure Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature): Clear, colorless, odorless liquid

Molecular Formula: Mixture - see Section 3

Molecular Weight: Mixture

Vapor Pressure: No data available.

Evaporation Rate: No data available

SAFETY DATA SHEET

Specific Gravity or Density:	1.4 g/cm ³	Vapor Density (air = 1):	No data available.
Boiling Point:	130 - 135°C @ 760 mm Hg	Freezing / Melting Point:	No data available.
Solubility in Water:	completely soluble	Octanol / Water Coefficient:	No data available.
pH:	14.0	Odor Threshold:	No data available.
Viscosity:	60.43 mPa.s @ 20°C	Autoignition Temperature:	Will not burn.
Flash Point and Method:	Non-flammable	Flammable Limits:	Non-flammable
Flammability (solid, gas):	Not applicable.	Decomposition Temperature:	No data available.
Explosive Properties:	Not explosive.	Oxidizing Properties:	Not an oxidizer.

SECTION 10: Stability and reactivity

<u>10.1. Reactivity</u>	Sodium borohydride solutions can liberate flammable hydrogen gas upon contact with acids, oxidizing agents, transition metals or water.
<u>10.2. Chemical stability</u>	Stable under normal temperatures and pressures.
<u>10.3. Possibility of hazardous reactions</u>	Polymerization is not expected to occur
<u>10.4. Conditions to avoid</u>	No data available.
<u>10.5. Incompatible materials</u>	Avoid water, acids, metals, glass, aluminum, copper, zinc, oxidizing agents, alcohols and metal salts (such as Ni ²⁺ , Co ²⁺ , etc.)
<u>10.6. Hazardous decomposition products</u>	Hydrogen

SECTION 11: Toxicological information

<u>11.1. Information on toxicological effects</u>	
Acute Oral LD ₅₀ :	57 mg/kg (rat) Sodium Borohydride
Acute Dermal LD ₅₀ :	4000 - 8000 mg/kg (rabbit) Sodium Borohydride
Acute Inhalation LC ₅₀ :	1.5 mg/L, 4 hrs (rat) Sodium Borohydride
Skin Irritation:	Corrosive to skin.
Eye Irritation:	Corrosive to eyes.
Skin Sensitization:	Not a sensitizer
Mutagenicity:	Substance unable to be tested due to reactivity. For the hydrolysis product (Boric Acid), in vitro genetic toxicity studies were negative. Mammalian genetic toxicity studies were negative.
Reproductive / Developmental Toxicity:	Unable to be tested due to reactivity. Hydrolysis product (Boric Acid) shows oral NOAEL of 17.5 mg boron/kg/day in rat studies; has been shown to impair fertility and has caused birth defects in laboratory animals.
Carcinogenicity:	Unable to be tested due to reactivity. Hydrolysis product (Boric Acid) found negative for carcinogenic

SAFETY DATA SHEET

Target Organs:	effects.
Aspiration Hazard:	For the hydrolysis product (Boric Acid): testes and blood.
Primary Route(s) of Exposure:	No data available.
Most important symptoms and effects, both acute and delayed	Skin contact and absorption, eye contact, and inhalation. Ingestion is not likely to be a primary route of exposure.
Additive or Synergistic effects:	Sodium borohydride solutions are corrosive to eyes, skin and mucous membranes. Toxic upon ingestion. Delayed Effects: None known.
Additional Toxicity Information:	None known.
	No reliable acute toxicity data for sodium hydroxide exists due to corrosivity.

SECTION 12: Ecological information

<u>12.1. Toxicity</u>	NOEC = 5.6 mg/L	<i>NOEC calculated based on fish toxicity of boric acid (most sensitive trophic level), equivalent to 5.6 mg boron/L.</i>
<u>12.2. Persistence and degradability</u>	Rapidly hydrolyzes in water to form sodium borate/boric acid and hydrogen gas.	
<u>12.3. Bioaccumulative potential</u>	The rapid hydrolysis of sodium borohydride, along with the high water solubility and low log Kow of boric acid indicates that this product is not capable of bioaccumulation.	
<u>12.4. Mobility in soil</u>	Soil mobility studies are not technically feasible given the rapid hydrolysis of this product, whose half-life ranges from seconds to minutes at environmentally relevant pH's.	
<u>12.5. Results of PBT and vPvB assessment</u>	This substance is not a PBT or vPvB.	
<u>12.6. Other adverse effects</u>	May increase pH of aquatic systems to >pH 10 which may be toxic to aquatic organisms.	

SECTION 13: Disposal considerations

<u>13.1. Waste treatment methods</u>	
US EPA Waste Number:	D002
Waste Classification: (per US regulations)	Corrosive.
Waste Disposal:	NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations. Dispose of this material responsibly, and in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws, and environmental protection duty of care principles. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate classification code according to the European Community List of Wastes should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

The following information applies to all shipping modes (DOT/IATA/ICAO/IMDG/ADR/RID/ADN), unless otherwise indicated:

14.1. UN number	UN3320	14.2. UN proper shipping name	Sodium borohydride and sodium
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SAFETY DATA SHEET

14.3. Transport hazard class(es)	8	14.4. Packing group	hydroxide solution II
NA Emergency Guidebook Numbers:	157	IMDG EMS:	S-B; F-A
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code			Consult IMO regulations before transporting in bulk by ocean.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Inventory Lists:	Status:		
USA TSCA:	Listed	EINECS:	Listed
Canada(DSL/NDL):	Listed (DSL)	Japan:	Listed
Korea:	Listed	Australia:	Listed
China:	Listed	Philippines:	Listed
Taiwan:	Listed	New Zealand:	Listed
WHMIS Classification:	Class E: Corrosive Material. Class D, Division 1, Subdivision B: Toxic Material. Class D, Division 2, Subdivision A: Very Toxic Material		
German Water Hazard Classification:	WGK 2 - mixture classification (> 5% <i>Natriumtetrahydroborat</i>)		
SARA 313:	Not applicable.		
Reportable Quantities:	Sodium Hydroxide: 1000 pounds (454 kg)		
State Regulations:	<ul style="list-style-type: none"> This product contains chemicals listed on the New Jersey Department of Health Hazard Right-to-Know Program Hazardous Substance List. This product contains chemicals listed on the Massachusetts Substance List for Right-to-Know Law. This product contains chemicals listed on the Pennsylvania Department of Labor and Industry Hazardous Substance List. This product contains chemicals listed on the Minnesota Hazardous Substances List. This product contains chemicals listed on the New York State List of Hazardous Substances. This product contains chemicals listed on the Rhode Island Hazardous Substance List. 		
Other Regulatory Listings:	<p>Sodium Borohydride:</p> <ul style="list-style-type: none"> Hong Kong: Hazardous Chemicals Control Ordinance – Dangerous Goods List 20074, Category 6; Exempt Quantity: NIL; Label: H. Switzerland: On Swiss Giftlist 1 (List of Toxic Substances 1), 31 May 1999 Toxic Category 3, List number G-9541. <p>Sodium Hydroxide:</p> <ul style="list-style-type: none"> Hong Kong: Hazardous Chemicals Control Ordinance-Dangerous Goods List, 2007. Category 3; Exempt quantity: 50 kg (solid), 50 L (solution); Label: E. India: INDIA 571; List of Hazardous Chemicals, 2000. Singapore: List of Controlled Hazardous Substances, 2011, PCDSOH111 Switzerland: On SWISS Giftlist 1 (List of Toxic Substances 1), 31 May 1999 Toxic Category 2: G-2591 Sodium hydroxide; G-4490 Turkey: List of Priority Chemicals, 2012 Vietnam: Vietnam Chemicals Control Act 06/2007/QH12, Classification: chemicals subject to compulsory declaration 		

SAFETY DATA SHEET

HMIS:

HEALTH	3
FLAMMABILITY	0
REACTIVITY	1

NFPA:



15.2. Chemical safety assessment

A chemical safety assessment has not been prepared for this mixture of substances.

SECTION 16: Other information

Classification Method: On basis of test data; calculation method; expert judgment

Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.

CAS = Chemical Abstracts Service.

CFR = Code of Federal Regulations.

DSL/NDL = Domestic Substances List/Non-Domestic Substances List.

EC = European Community.

EINECS = European Inventory of Existing Commercial Chemical Substances.

ELINCS = European List of Notified Chemical Substances.

EU = European Union.

GHS = Globally Harmonized System.

LC = Lethal Concentration.

LD = Lethal Dose.

NFPA = National Fire Protection Association.

NIOSH = National Institute of Occupational Safety and Health.

NTP = National Toxicology Program.

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit.

RQ = Reportable Quantity.

SARA = Superfund Amendments and Reauthorization Act of 1986.

TLV = Threshold Limit Value.

WHMIS = Workplace Hazardous Materials Information System.

Important Note: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. The information contained herein may change without prior notice. THIS SAFETY DATA SHEET SUPERSEDES ALL PREVIOUS EDITIONS.

Revision Date: 30 June 2017

Original Date of Issue: 30 April 2015

Issued by: Regulatory Management Department

Email: SDS@Vertellus.com

Revision Details: Adjusted section three.

SAFETY DATA SHEET

Ferrous Sulfate Heptahydrate

Page: 1

Printed: 10/31/2018

Revision: 10/31/2018

Supersedes Revision: 08/26/2016

1. Product and Company Identification

Product Code: FSH
Product Name: Ferrous Sulfate Heptahydrate
Trade Name: copperas, green vitriol
Company Name: CROWN TECHNOLOGY, INC
7513 E. 96TH STREET
Indianapolis, IN 46256
Phone Number: (317)845-0045
Web site address: crowntech.com
Emergency Contact: PERS (800)633-8253
Intended Use: Iron Source

2. Hazards Identification

Acute Toxicity: Oral, Category 4

Skin Corrosion/Irritation, Category 2

Serious Eye Damage/Eye Irritation, Category 2



GHS Signal Word: Warning

GHS Hazard Phrases: H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

GHS Precaution Phrases: P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P362+364 - Take off contaminated clothing and wash it before reuse.

GHS Response Phrases: P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P302+352 - IF ON SKIN: Wash with plenty of soap and water.
P332+313 - If skin irritation occurs, get medical advice/attention.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313 - If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases: No phrases apply.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
7782-63-0	Ferrous sulfate	100.0 %

SAFETY DATA SHEET
Ferrous Sulfate Heptahydrate

Page: 2

Printed: 10/31/2018

Revision: 10/31/2018

Supersedes Revision: 08/26/2016

4. First Aid Measures

Emergency and First Aid

Procedures:

- In Case of Inhalation:** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention. Never give anything by mouth to an unconscious person.
- In Case of Skin Contact:** Wash skin with soap and water.
- In Case of Eye Contact:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation persists, get medical advice/attention.
- In Case of Ingestion:** If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire Fighting Measures

- Flash Pt:** No data.
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** No data.
- Suitable Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.
- Unsuitable Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.
- Fire Fighting Instructions:** Substance is noncombustible.
- Flammable Properties and Hazards:** Non Combustible.
- Hazardous Combustion Products:** sulfur oxides.

6. Accidental Release Measures

- Protective Precautions, Protective Equipment and Emergency Procedures:** Not available.
- Environmental Precautions:** Reportable Quantity: 1000 lbs.
- Steps To Be Taken In Case Material Is Released Or Spilled:** Clean up spills immediately, observing precautions in Protective Equipment section.

7. Handling and Storage

- Precautions To Be Taken in Handling:** Store in a cool dry place.
- Precautions To Be Taken in Storing:** Keep container closed when not in use.
- Other Precautions:** None.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
7782-63-0	Ferrous sulfate	No data.	TWA: 1 mg/m3	No data.

SAFETY DATA SHEET

Ferrous Sulfate Heptahydrate

Page: 3

Printed: 10/31/2018

Revision: 10/31/2018

Supersedes Revision: 08/26/2016

Recommended Exposure Limits:	Not available.
Respiratory Equipment (Specify Type):	ANSI approved respirator.
Eye Protection:	Goggles.
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure.
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure.
Engineering Controls (Ventilation etc.):	If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Work/Hygienic/Maintenance Practices:	Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States:	[] Gas [] Liquid [X] Solid		
Appearance and Odor:	Appearance: Bluish green to brown crystals. Odor: metal odor. Odor Threshold: N/A.		
pH:	5% Sol 2.5 - 5		
Melting Point:	149.00 F (65.0 C)		
Boiling Point:	572.00 F (300.0 C)		
Flash Pt:	No data.		
Evaporation Rate:	No data.		
Flammability (solid, gas):	No data available.		
Explosive Limits:	LEL: No data.	UEL: No data.	
Vapor Pressure (vs. Air or mm Hg):	No data.		
Vapor Density (vs. Air = 1):	No data.		
Specific Gravity (Water = 1):	No data.		
Density:	55 LB/CF		
Solubility in Water:	46.8g/100g		
Octanol/Water Partition Coefficient:	N/A		
Autoignition Pt:	No data.		
Decomposition Temperature:	572.00 F (300.0 C)		
Viscosity:	NE		
Molecular Formula & Weight:	FeSO4*7H2O	278.0	

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]	
Conditions To Avoid - Instability:	No data available.	
Incompatibility - Materials To Avoid:	No data available.	
Hazardous Decomposition or Byproducts:	No data available.	
Possibility of Hazardous Reactions:	Will occur [X]	Will not occur []
Conditions To Avoid - Hazardous Reactions:	No data available.	

SAFETY DATA SHEET

Ferrous Sulfate Heptahydrate

Page: 4

Printed: 10/31/2018

Revision: 10/31/2018

Supersedes Revision: 08/26/2016

11. Toxicological Information

Toxicological Information: CAS# 7782-63-0: Acute toxicity, LD50, Oral, Mouse, 1520. MG/KG. Results: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Mydriasis (pupillary dilation). Behavioral: Convulsions or effect on seizure threshold. Gastrointestinal: Nausea or vomiting. ; American Journal of the Medical Sciences., Slack Inc., 6900 Grove Rd., Thorofare, NJ 08086, Vol/p/yr: 230,491, 1955

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information: No data available.
CAS# 7782-63-0: LC50, Bluegill (*Lepomis macrochirus*), 51.20 PPM, 96 H, Mortality. Results: Morphological changes. ; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
LC50, Rainbow Trout (*Oncorhynchus mykiss*), 20.80 PPM, 96 H, Mortality. Results: Affected fish stopped schooling behavior. Affected fish became hypoactive. ; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000
Effective concentration to 50% of test organisms., Water Flea (*Daphnia pulex*), 7.100 PPM, 48 H, Intoxication,. Results: No loss of equilibrium observed. ; Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)), Office of Pesticide Programs, 2000

Results of PBT and vPvB assessment: No data available.

13. Disposal Considerations

Waste Disposal Method: Observe all federal, state, and local environmental regulations.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not regulated as a hazardous material.

DOT Hazard Class:

UN/NA Number:

15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7782-63-0	Ferrous sulfate	No	Yes 1000 LB	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Explosive	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute toxicity (any route of exposure)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flammable (gases, aerosols, liquid, or solid)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Skin Corrosion or Irritation
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Oxidizer (liquid, solid or gas)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Serious eye damage or eye irritation
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Self-reactive	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Respiratory or Skin Sensitization
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pyrophoric (liquid or solid)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Germ cell mutagenicity
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pyrophoric gas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Carcinogenicity
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Self-heating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Reproductive toxicity
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Organic peroxide	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Specific target organ toxicity (single or repeated exposure)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corrosive to metal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Aspiration Hazard
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gas under pressure (compressed gas)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Simple Asphyxiant
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	In contact with water emits flammable gas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Health) Hazard Not Otherwise Classified (HNOC)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Combustible Dust		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Physical) Hazard Not Otherwise Classified (HNOC)		

SAFETY DATA SHEET
Ferrous Sulfate Heptahydrate

Page: 5

Printed: 10/31/2018
Revision: 10/31/2018
Supersedes Revision: 08/26/2016

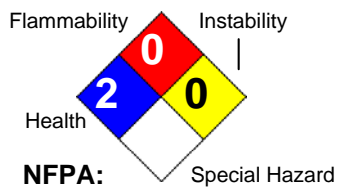
16. Other Information

Revision Date: 10/31/2018

Hazard Rating System:

HEALTH		2
FLAMMABILITY		0
PHYSICAL		0
PPE		

HMIS:



Additional Information About No data available.

This Product:

SAFETY DATA SHEET

Version 4.6
Revision Date 09/13/2017
Print Date 01/01/2018

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Lithium chloride

Product Number : 310468
Brand : Sigma-Aldrich

CAS-No. : 7447-41-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P280

Wear protective gloves/ eye protection/ face protection.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Rinse mouth.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : CLi
Molecular weight : 42.39 g/mol
CAS-No. : 7447-41-8
EC-No. : 231-212-3

Hazardous components

Component	Classification	Concentration
Lithium chloride		
	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; H302, H315, H319	90 - 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic Store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.
Hazardous components without workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: crystalline
Colour: white |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | 6 |
| e) Melting point/freezing point | Melting point/range: 605 °C (1,121 °F) - lit. |
| f) Initial boiling point and boiling range | 1,360 °C (2,480 °F) |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | 2.070 g/cm ³ |
| n) Water solubility | soluble |
| o) Partition coefficient: n-octanol/water | log Pow: -2.7 |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Exposure to moisture

10.5 Incompatible materials

Strong acids, Strong oxidizing agents, Bromine trifluoride

10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Lithium oxides

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 526 mg/kg

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: OJ5950000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Toxicity to fish static test EC50 - Oncorhynchus mykiss (rainbow trout) - 158 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 249 mg/l
other aquatic
invertebrates

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Lithium chloride	7447-41-8	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Lithium chloride	7447-41-8	

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
Skin Irrit.	Skin irritation

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information

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Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 4.6

Revision Date: 09/13/2017

Print Date: 01/01/2018

Phosphoric Acid 75%

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/SUPPLIER

Other Means of Identification	:	CAS: 7664-38-2
Importer's Name/Address in U.S.	:	Miami Chemical 2 NE 40 th Street Suite 501 Miami, FL 33137 USA
		Telephone: (305) 370-3170 Facsimile: (305) 397-1630
INFOTRAC 24-HOUR Emergency Telephone Number	:	(800) 535-5053 (24 hours / 7 days a week) [International: (352) 323-3500]

2. HAZARDS IDENTIFICATION



Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)	:	Acute toxicity, Oral (Category 4) Acute toxicity, Inhalation (Category 2) Acute toxicity, Dermal (Category 5) Skin corrosion (Category 1B) Serious eye damage (Category 1)
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Environmental Hazards	:	No data available
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Labeling

Signal Word	:	Danger
Hazard Statements	:	H302: Harmful if swallowed. H313: May be harmful in contact with skin. H314: Causes severe skin burns and eye damage. H330: Fatal if inhaled.

Symbols/Pictograms	:	 
--------------------	---	---

Precautionary Statements	:	Do not breathe dust / fume / gas / mist / vapors / spray. (P260) Wear protective gloves / protective clothing / eye protection / face protection. (P280) Wear respiratory protection. (P284) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. (P305+P351+P338) P310: Immediately call a POISON CENTER or doctor / physician.
--------------------------	---	--

Response	:	Get medical attention/advice if you feel unwell.
----------	---	--

Phosphoric Acid 75%**3. COMPOSITION/INFORMATION ON INGREDIENTS****Composition Information**

Ingredient	CAS	Percent
Phosphoric Acid	7664-38-2	75%
Water	7732-18-5	25%

4. FIRST AID MEASURES

- Skin Contact** : Wash off with soap and plenty of water. Consult a physician.
- Eye Contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Inhalation** : Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.
- Ingestion** : Do Not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE FIGHTING MEASURES

- Extinguishing media** : Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool. If water is used, use in abundance to control heat and acid build-up.
- Specific hazards arising** : In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.
- Advice for fire-fighters** : Protective equipment for fire fighting: Firefighters should be equipped with self-contained breathing apparatus and turnout gear.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
- Methods & material for containment & cleaning up** : Contain and recover liquid when possible. Do



SAFETY DATA SHEET

Version: 3
Revision Date: December 11, 2014

Phosphoric Acid 75%

not let product enter drains. Neutralize with alkaline material (soda ash, lime,) then absorb with an inert material (e. g., vermiculite, dry sand, earth,) and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. HANDLING AND STORAGE

- | | | |
|--------------------------------------|---|--|
| Precautions for Safe Handling | : | Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture, incompatibilities, and direct sunlight. Corrosive to mild steel. Store in rubber lined or 316 stainless steel designed for phosphoric acid. Do not wash out container and use it for other purposes. When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. Protect from freezing. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Observe all warnings and precautions listed for the product. |
| Conditions for safe storage | : | Keep container tightly closed in a dry and well-ventilated place. Containers, which are opened, must be carefully resealed and kept upright to prevent leakage. |

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

- | | | |
|---|---|---|
| Appropriate engineering controls | : | A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details. |
| Skin Protection | : | Use chemical safety goggles and / or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area. |

Phosphoric Acid 75%

Eye Protection	:	Use chemical safety goggles and/or a full-face shield.
Respiratory Protection	:	Where risk assessment shows air –purifying respirators are appropriate use a full-face respirator with multi-purpose combination or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH or CEN.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State	:	Clear, colorless, syrupy liquid
Odor	:	Odorless
Odor Threshold	:	No data available
pH	:	1.5
Melting point/Freezing Point	:	21°C (Melting)
Boiling Point	:	158°C
Flash Point	:	No data available
Ignition Temperature	:	No data available
Explosive Limits	:	No data available
Vapor Pressure	:	0.3 kPa
Vapor Density	:	3.4
Relative Density/Specific Gravity	:	1.685 g/cm ³
Solubility in Water	:	Miscible in all proportions in water
Octanol/Water Partition Coefficient	:	No data available
Autoignition Temperature	:	No data available
Thermal Decomposition	:	No data available
Kinematic Viscosity (cSt)	:	No data available
Dynamic Viscosity (cP)	:	No data available
Molar Mass	:	No data available
Surface Tension	:	No data available
Refractive Index	:	No data available
Weight per Gallon	:	No data available
Volatile	:	No data available
Molecular Weight	:	97.99
Formula	:	H ₃ PO ₄

10. STABILITY AND REACTIVITY

Reactivity	:	No data available
Chemical Stability	:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	:	Incompatibles
Conditions to Avoid	:	No data available
Incompatible Materials	:	Liberates explosive Hydrogen gas when reacting with chlorides and stainless steel. Can react violently with Sodium Tetrahydroborate. Exothermic reactions with aldehydes, amines, amides, alcohols and glycols, azo-compounds, carbamates, esters, caustics, phenols and cresols, ketones, organophosphates, epoxides, explosives, combustible materials, unsaturated halides, and

Phosphoric Acid 75%

organic peroxides. Phosphoric Acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. It also forms toxic fumes with cyanides, sulfide, fluorides, organic peroxides, and halogenated organics. Mixtures with Nitromethane are explosive.

11. TOXICOLOGICAL INFORMATION**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glyceryl triacetate	830 mg/kg (Mouse)	>2000 mg/kg (Rabbit)	5100 mg/m3 (Rat)

Skin

Corrosive. May cause redness, pain, and severe skin burns.

Inhalation

Corrosive. May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. Severe exposures can lead to shock, circulatory collapse, and death.

Eyes

Corrosive. May cause irritation and serious eye damage.

Ingestion

Inhalation is not an expected hazard unless misted or heated to high temperatures. Mist or vapor inhalation can cause irritation to the nose, throat, and upper respiratory tract. Severe exposures can lead to a chemical pneumonitis.

Acute Toxicity

Oral rat LD50: 1530 mg/kg; investigated as a mutagen.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

May be harmful to aquatic organisms due to the shift of the pH.

Persistence and Degradability

Expected to be readily biodegradable

Bioaccumulative potential

No data available

Mobility

When spilled onto soil, phosphoric acid will infiltrate downward, the rate being greater with lower concentration because of reduced viscosity. During transport through the soil, phosphoric acid will dissolve some of



SAFETY DATA SHEET

Version: 3
Revision Date: December 11, 2014

Phosphoric Acid 75%

the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree with adsorption of the proton and phosphate ions also possible.

However, significant amounts of acid will remain for transport down toward the groundwater table. Upon reaching the groundwater table, the acid will continue to move in the direction of groundwater flow.

Information obtained from US National Library of Medicine

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging	:	Incinerate or dispose of in a licensed facility. Dispose of in accordance with national, state and local regulations. Dispose of in a licensed facility.
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14. TRANSPORT INFORMATION

U.S. DOT

UN Number	:	–UN1805
Hazard Class	:	–8
Packing Group	:	–III
Proper Shipping Name	:	–Phosphoric Acid Solution
Label	:	–Corrosive
Marine Pollutant	:	–No
Additional Information/Remarks	:	<u>See</u> additional information and notes below.

IMDG/IMO

UN Number	:	–UN1805
Hazard Class	:	–8
Packing Group	:	–III
Proper Shipping Name	:	–Phosphoric Acid Solution
Label	:	–Corrosive
Marine Pollutant	:	–No
Additional Information/Remarks	:	<u>See</u> additional information and notes below.

ICAO/IATA

UN Number	:	–UN1805
Hazard Class	:	–8
Packing Group	:	–III
Proper Shipping Name	:	–Phosphoric Acid Solution
Label	:	–Corrosive
Marine Pollutant	:	–No
Additional Information/Remarks	:	<u>See</u> additional information and notes below.

15. REGULATORY INFORMATION

OSHA Hazards



SAFETY DATA SHEET

Version: 3
Revision Date: December 11, 2014

Phosphoric Acid 75%

Combustible liquid, target organ effect, corrosive, Harmful by ingestion

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
Japan	ENCS/ISHL
Korea	ECL
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

16. OTHER INFORMATION

Label Text : See Section 2 and product labeling.

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 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.

HMIS Information : No data available

Previous SDS Version Date : April 16, 2012

SAFETY DATA SHEET

Creation Date 11-Feb-2010

Revision Date 13-Oct-2023

Revision Number 6

1. Identification

Product Name Sodium hydroxide

Cat No. : S318-1; S318-3; S318-3LC; S318-5; S318-10; S318-10LC; S318-50; S318-50LC; S318-100; S318-500;

CAS No 1310-73-2

Synonyms Caustic soda; Lye

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) Identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

Label Elements

Signal Word
Danger

Hazard Statements
Causes severe skin burns and eye damage
May cause respiratory irritation

Sodium hydroxide

Revision Date 13-Oct-2023



Precautionary Statements

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Sodium hydroxide	1310-73-2	> 95
Sodium carbonate	497-19-8	< 3

4. First-aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Ingestion

Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water.

	Never give anything by mouth to an unconscious person.
Most important symptoms and effects	Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. CO ₂ , dry chemical, dry sand, alcohol-resistant foam.
Unsuitable Extinguishing Media	Carbon dioxide (CO ₂)
Flash Point	Not applicable
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Sodium oxides.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA				
	Health	Flammability	Instability	Physical hazards
	3	0	1	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.
Environmental Precautions	Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.
Storage.	Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Store under an inert atmosphere. Protect from moisture. Incompatible Materials. Water. Metals. Acids.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Sodium hydroxide	Ceiling: 2 mg/m ³	(Vacated) Ceiling: 2 mg/m ³ TWA: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Particulates filter conforming to EN 143.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	14 (5 %)
Melting Point/Range	318 °C / 604.4 °F
Boiling Point/Range	1390 °C / 2534 °F @ 760 mmHg
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	1 mmHg @ 739 °C
Vapor Density	Not applicable
Specific Gravity	2.13
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	NaOH
Molecular Weight	40

10. Stability and reactivity

Sodium hydroxide

Revision Date 13-Oct-2023

Reactive Hazard	None known, based on information available
Stability	Water reactive. Hygroscopic.
Conditions to Avoid	Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.
Incompatible Materials	Water, Metals, Acids
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Sodium oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological Information**Acute Toxicity****Product Information****Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	LD50 = 325 mg/kg (Rat)	LD50 = 1350 mg/kg (Rabbit)	Not listed
Sodium carbonate	2800 mg/kg (Rat)	> 2000 mg/kg (rabbit)	2.3 mg/l 2h (Rat)

Toxicologically Synergistic Products No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Irritation	Causes severe burns by all exposure routes
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Sodium hydroxide	1310-73-2	Not listed	Not listed	Not listed	Not listed	Not listed
Sodium carbonate	497-19-8	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects Mutagenic effects have occurred in experimental animals.**Reproductive Effects** No information available.**Developmental Effects** No information available.**Teratogenicity** No information available.**STOT - single exposure** Respiratory system
STOT - repeated exposure None known**Aspiration hazard** No information available**Symptoms / effects, both acute and delayed** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated**Endocrine Disruptor Information** No information available**Other Adverse Effects** The toxicological properties have not been fully investigated.**12. Ecological Information****Ecotoxicity**

Do not empty into drains. Contains a substance which is: Harmful to aquatic organisms. The product contains following

Sodium hydroxide

Revision Date 13-Oct-2023

substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium hydroxide	-	LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss)	-	-
Sodium carbonate	Not listed	Lepomis macrochirus: LC50: 300 mg/L/96h Gambusia affinis: LC50: 740 mg/L/96h	-	EC50: = 265 mg/L, 48h (Daphnia magna)

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.**Bioaccumulation/ Accumulation** No information available.**Mobility** Will likely be mobile in the environment due to its water solubility.**13. Disposal considerations****Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.**14. Transport information****DOT**

UN-No	UN1823
Proper Shipping Name	Sodium hydroxide, solid
Hazard Class	8
Packing Group	II

TDG

UN-No	UN1823
Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Hazard Class	8
Packing Group	II

IATA

UN-No	UN1823
Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Hazard Class	8
Packing Group	II

IMDG/IMO

UN-No	UN1823
Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Hazard Class	8
Packing Group	II

15. Regulatory information**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Phase
Sodium hydroxide	1310-73-2	X	ACTIVE	-
Sodium carbonate	497-19-8	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

Sodium hydroxide

Revision Date 13-Oct-2023

TSCA 12(b) - Notices of Export

Not applicable

International Inventories

China, X = listed, Australia, U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (KECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Sodium hydroxide	1310-73-2	X	-	215-185-5	X	X	X	X	X	KE-31487
Sodium carbonate	497-19-8	X	-	207-838-8	X	X	X	X	X	KE-31380

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories

See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sodium hydroxide	X	1000 lb	-	-

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium hydroxide	1000 lb	-

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium hydroxide	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade

No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances	REACH (1907/2006) - Annex XVII - Restrictions	REACH Regulation (EC 1907/2006) article 59 -
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Sodium hydroxide

Revision Date 13-Oct-2023

		Subject to Authorization	on Certain Dangerous Substances	Candidate List of Substances of Very High Concern (SVHC)
Sodium hydroxide	1310-73-2	-	Use restricted. See item 75. (see link for restriction details)	-
Sodium carbonate	497-19-8	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Sodium hydroxide	1310-73-2	Listed	Not applicable	Not applicable	Not applicable
Sodium carbonate	497-19-8	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium hydroxide	1310-73-2	Not applicable	Not applicable	Not applicable	Annex I - Y35
Sodium carbonate	497-19-8	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By

Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date

11-Feb-2010

Revision Date

13-Oct-2023

Print Date

13-Oct-2023

Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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

End of SDS

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Sodium Hypochlorite Solution 12.5% (NAOCL)
Product Use:	Cooling Water Microbiocide
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: **DANGER**

GHS Classification(s): Corrosive to Metals – Category 1
Acute Toxicity Oral – Category 4
Skin corrosion/irritation – Category 1a
Eye damage/irritation – Category 1
Hazardous to the aquatic environment Acute – Category 1

Hazard Statement(s): H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.

Precautionary Statement(s):

Prevention: P273 Avoid release into the environment.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.

**Response:**

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.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P331 Do NOT induce vomiting.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing 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 hypochlorite	7681-52-9	12.5

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 victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

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:	Probable mucosal damage may contraindicate the use of gastric lavage. Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

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:	This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
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 79 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.
Keep out of direct sunlight.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium hypochlorite	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 appropriate chemical resistant gloves.

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, Yellow, Clear
Specific Gravity:	1.210 @ 20°C
pH:	12.9 @ 20°C, 100.0%
Freezing Point:	<-11°F
Flash Point:	N/D
Odor:	Chlorine
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	230°F
Solubility in Water:	Complete
Evaporation Rate:	<1
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:	10.09 LB/GA
Vapor Pressure:	<17.5
% 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:	Acids, Ammonia, Amines, Oxidizers.
Hazardous Decomposition Products:	Chlorine, Hypochlorous acid, Hydrochloric acid.
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 Hypochlorite Solution 12.5% (NAOCL)	Oral	LD50	3 – 5 G/KG	Rat
	Dermal	LD50	>2 G/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium hypochlorite	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
Bluegill Sunfish	48h	LC50	0.6 mg/l
Daphnia magna	96h	LC50	2.1 mg/l
Green Algae	24h	EC50	0.6 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: Not bioaccumulating

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities. 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	UN1791	HYPOCHLORITE SOLUTIONS	N/A	8	PGIII
Over 79 GA	RQ UN1791	HYPOCHLORITE SOLUTIONS	N/A	8	PGIII
IMDG	UN1791	HYPOCHLORITE SOLUTIONS	N/A	8	PGIII, Marine Pollutant
TDG	UN1791	HYPOCHLORITE SOLUTIONS	N/A	8	PGIII, Marine Pollutant



Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
ICAO	UN1791	HYPOCHLORITE SOLUTIONS	N/A	8	PGIII, Marine Pollutant

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 hypochlorite	N/A	N/A	100

Comments: None.



State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium hypochlorite	MA, NY, PA

Compliance Information

NSF: Certified to NSF/ANSI Standard 60
Maximum use rate for potable water – 58 mg/L
This product ships as NSF from:
Facility #19 USA

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: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 550-198-15300.

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
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
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.

Figure 1. Wastewater Flow Diagram

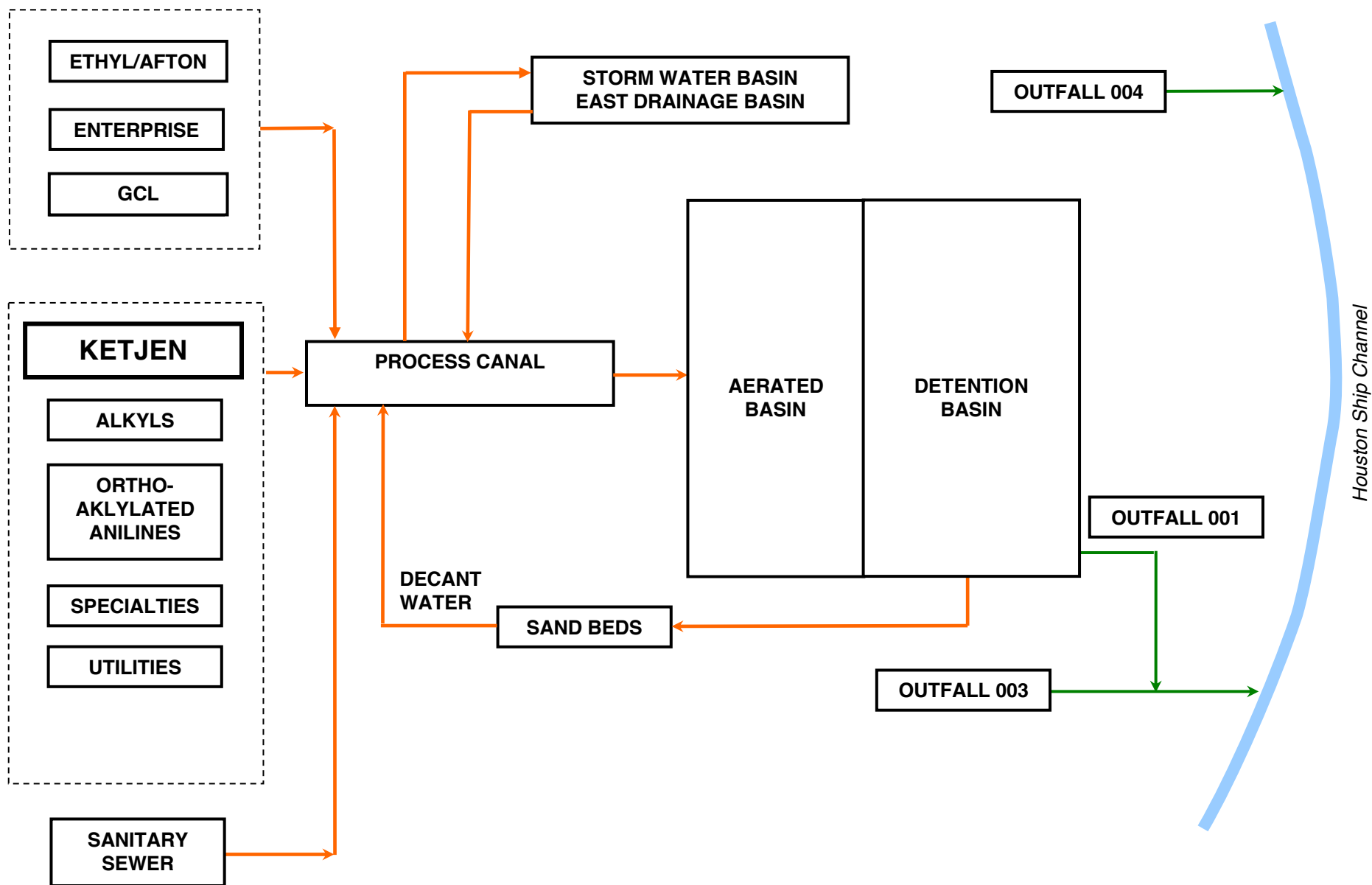


Table 2. Outfall Wastewaters

Outfall	Wastewater Source	Producer	% of OCPSF Production	Average (gpd)	
001	Process Wastewater				
	40 CFR 414, Effluent Guidelines, Organic Chemicals, Plastics, and Synthetic Fibers				
	Subpart G - Bulk Organic Chemicals				
	*Alkyl Benzenes (N-propyl benzene, NPBZ)		Ketjen	110,000	
	Total for OCPSF Subpart G			110,000	
	Subpart H - Specialty Organic Chemicals**				
	Alkylated anilines	Alkylation of ortho-toluidine (2-ethyl-6-methylaniline)	Ketjen	9,000	
	Metal alkyls	Hydrometalation or substitution	Ketjen		
	Magnesium alkyls (butylethylmagnesium)	Hydrolysis of magnesium alkyls	Ketjen		
	Lube additives	Chemical addition of maleic anhydride, polyethyleneamine and polyisbutylene; lube additives blending	Afton		
	Lead alkyl blending (process area stormwater, spills)	Blending	Ethyl	2,000	
	Ground water recovery		Ethyl		
	Total for OCPSF Subpart H			99%	11,000
	Process area stormwater (87% of process area related to OCPSF)				824,760
	Total for OCPSF (all Subparts)				945,760
	Inorganic Chemicals - Products listed below not covered by effluent guidelines				
	Aluminum powdering (by dry atomization)		Ketjen		0
	Potassium carbonate (terminal operations)		Enterprise		5,000
	Process area storm water (13% of process area related to inorganic production)				123,240
	Total for inorganic chemicals				128,240
	Utilities				
	Utilities area				1,150,000
	MP-1 (alkylated anilines)				
	Total for utilities				1,150,000
	Domestic Wastewater				20,000
	Total dry weather flow				1,296,000
	Total process area stormwater				948,000
Two-year maximum monthly average flow (June 2018 - May 2020)				2,244,000	
Other Stormwater (more extreme storm events)				3,920,000	
Total Permitted Flow				6,164,000	
003	Utility wastewater, wash water, non-process area stormwater, certain non-stormwater discharges			Intermittent and flow variable	
004	Utility wastewater, non-process area stormwater, certain non-stormwater discharges			Intermittent and flow variable	
*Product groups					
**Where a chemical is not included in another subpart, it is classified as Subpart H.					

Leah Whallon

From: Chris Arceneaux <Chris.Arceneaux@albemarle.com>
Sent: Wednesday, June 25, 2025 4:26 PM
To: Leah Whallon
Cc: Doug Thompson; Alyssa Linares
Subject: RE: Application to Renew Permit No. WQ0000492000; Ketjen Limited Liability Company; Ketjen Pasadena Plant
Attachments: Executed_2024.Jan.11_KetjenCorp(US10) PasadenaTXLisaFrugé - FINAL.pdf; Ketjen WQ0000492000 Spanish NORI 6-25-25.docx

Follow Up Flag: Follow up
Flag Status: Flagged

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

Re: Ketjen Limited Liability Company (CN606211746)
Ketjen Pasadena Plant (RN100218247)
Renewal without changes, TPDES Permit No. WQ0000492000 (EPA ID TX0004731)
Response to letter dated June 19, 2025

Dear Ms. Whallon:

Ketjen Limited Liability Company is in receipt of your June 19, 2025 letter, which requested additional information for the TPDES renewal application for the Ketjen Pasadena Plant that was submitted on June 10, 2025. Below are responses to the requested information.

TCEQ Item 1

The application was signed by Ms. Lisa Fruge, whose title is Plant Manager. Applications must be signed by a person meeting the signatory authority requirements. For a corporation, this should be a person at least at the level of vice president. Please provide either written documentation showing Ms. Fruge has signatory authority, or provide a new signature page, signed by an individual meeting the signatory authority requirements.

Response to Item 1

The delegation of authority for Ms. Fruge is attached. It is signed by the president of Ketjen Corporation, which is the parent company of Ketjen Limited Liability Company.

TCEQ Item 2

The following is a portion of the NORI, which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete.

Response to Item 2

No changes are needed to the NORI text.

TCEQ Item 3

The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.

Response to Item 2


The translated Spanish NORI is included in the email submittal of this letter.

Please do not hesitate to contact me at 713-740-1160 or chris.arceneaux@ketjen.com if you have any questions.

Sincerely,

Chris Arceneaux
Environmental Professional

Enclosures
Ketjen Limited Power of Attorney (January 22, 2024)
Spanish NORI (Word format)

Chris Arceneaux |  **Ketjen** | Environmental Professional | 2500 N. South Street, Pasadena, TX 77503, USA | PO Box 2500, Pasadena, TX 77501, USA ☎: +1.713.740.1160 | ✉: Chris.Arceneaux@ketjen.com | www.ketjen.com

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>

Sent: Thursday, June 19, 2025 4:37 PM

To: Chris Arceneaux <Chris.Arceneaux@albemarle.com>

Subject: Application to Renew Permit No. WQ0000492000; Ketjen Limited Liability Company; Ketjen Pasadena Plant

WARNING: This message was sent from an **EXTERNAL** email address. Be cautious of links and attachments, and do not enter your ID or password.
Report any suspicious content.

Good Afternoon,

Please see the attached Notice of Deficiency letter dated June 19, 2025 requesting additional information needed to declare the application administratively complete. Please send the complete response by July 3, 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

**KETJEN CORPORATION
LIMITED POWER OF ATTORNEY
FOR PASADENA TEXAS PLANT**

I, Michael J. Simmons, President, of Ketjen Corporation, located at 13100 Space Center Blvd, Suite 400, Houston, Texas, 77059 (the "Company"), on behalf of the Company hereby appoint:
Lisa Fruge

as authorized representative of the Company ("Agent") for the purposes described herein.

Ms. Fruge is the Plant Manager of the Company's Pasadena Plant and responsible for the entire operation of the facility.

The Agent shall have full power and authority to act on behalf of the Company with regard to any and all reports and/or documents which are required to be or may be filed on behalf of the Company's Pasadena Plant located in Pasadena, Texas. This power and authority shall include, but not be limited to, permits or licenses issued by the:

1. Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau
2. Texas Commission on Environmental Quality
3. U. S. Department of Homeland Security
4. U. S. Department of Commerce
5. U. S. Department of Transportation
6. U. S. Environmental Protection Agency
7. Harris County Pollution Control

This Limited Power of Attorney is effective as of the date signed below, and will continue until December 31, 2034, and may be revoked at any time by providing written notice to the Agent.

Dated this 22nd day of January, 2024 at Houston, Texas.



Michael J. Simmons
President, Ketjen Corporation

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. WQ0000492000

SOLICITUD. Ketjen Limited Liability Company, P.O. Box 2500, Pasadena, Texas 77501, propietaria de una planta industrial de producción de productos químicos orgánicos e inorgánicos, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0000492000 (EPA I.D. No. TX0004731) 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 6,164,000 galones por día a través del Outfall 001 y en un volumen intermitente y variable a través de los Outfalls 003 y 004. La planta está ubicada en 2500 North South Street, en la ciudad de Pasadena, en el Condado de Harris, Texas 77503. La ruta de descarga es del sitio de la planta a través de los Outfalls 001 y 003 directamente al canal de navegación de Houston y través del Outfall 004 directamente al canal de navegación de Houston/Buffalo Bayou. La TCEQ recibió esta solicitud el 10 de junio de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Publica de Pasadena - Central, 1201 Jeff Ginn Memorial Drive, Pasadena, 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=-95.168611,29.738888&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 agregue 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 Ketjen Limited Liability Company a la dirección indicada arriba o llamando a Sr. Chris Arceneaux, Environmental Professional, al 713-740-1160.

Fecha de emisión: *[Date notice issued]*