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.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements. After filling in the information for your facility delete these instructions.

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.

Gregory Power Partners, LLC (CN604378208) operates Gregory Power Facility (RN102547957), a power generating facility. The facility is located at 4633A Texas Highway 361, in Gregory, San Patricio County, Texas 78359. The facility has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005219000 to authorize the discharge of industrial wastewater at a volume not to exceed a daily average flow of 918,000 gallons per day.

Discharges from the facility are expected to contain free available chlorine, copper, zinc, free cyanide, chromium, total suspended solids, and oil and grease. Types of wastewater discharged from the facility include previously monitored effluents through Outfall 001. Previously monitored effluents discharged through Outfall 001 are cooling tower blowdown from internal Outfall 101 and low volume waste sources from internal Outfall 201. Cooling tower blowdown from internal Outfall 101 is dechlorinated prior to discharge through Outfall 001. Low volume waste sources from internal Outfall 201 are treated by an oil water

separator prior to comingling with other wastewaters for discharge through Outfall 001.

The following minor amendments are being requested: 1: remove the authorization for the discharge of domestic waster and remove internal Outfall 301; 2: revise Other Requirement 3f(2) to allow for multi-chlorination and continuous chlorination in the cooling towers and revise Other Requirement 3f(3) to allow the use of zero when results are less than the detection limit for chlorine loading; and 3: for Outfall 201, an increase the daily average flow rate from 0.085 million gallons per day (MGD) to 1.1 MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

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.

Gregory Power Partners, LLC (CN604378208) opera Gregory Power Facility (RN102547957), una instalación de generación de energía. La instalación está ubicada en 4633A Texas Highway 361, en Gregory, Condado de San Patricio, Texas 78359. La instalación ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) la renovación del Permiso del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) No. WQ0005219000 para autorizar la descarga de aguas residuales industriales a un volumen que no exceda un promedio diario de 918,000 galones por día.

Se espera que las descargas de la instalación contengan cloro libre disponible, cobre, zinc, cianuro libre, cromo, sólidos suspendidos totales, aceite y grasa. Los tipos de aguas residuales descargadas de la instalación incluyen efluentes previamente monitoreados a través del emisario 001. Los efluentes monitoreados previamente descargaron de emisario 001 son la purga de la torre de enfriamento de emisario interno 101 y fuentes de desechos de bajo volumen desde emisario interno 201. La purga de la torre de enfriamiento es desclorado antes de ser descargado a través del emisario 001. Las fuentes de desechos de bajo volumen del emisario interno 201 se tratan mediante un separador de aceite y agua antes de mezclarse con otras aguas residuales para su descarga a través del emisario 001.

Se solicitan las siguientes enmiendas menores: 1: eliminar la autorización para el vertido de aguas residuales domésticas y eliminar la Salida interna 301; 2: revisar el Requisito adicional 3f(2) para permitir la multi-cloración y la cloración continua en las torres de enfriamiento y revisar el Requisito adicional 3f(3) para permitir el uso de cero cuando los resultados son inferiores al límite de detección para la carga de cloro; y 3: para la Salida 201, un aumento en la tasa de flujo promedio diario de 0.085 millones de galones por día (MGD) a 1.1 MGD y un aumento en la tasa de flujo máxima diaria de 1.105 MGD a 1.25 MGD.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0005219000

APPLICATION. Gregory Power Partners LLC, P.O. Box 36, Gregory, Texas 78359, which owns a combined-cycle, natural gas-fired electricity generation plant, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005219000 (EPA I.D. No. TX0137502) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 918,000 gallons per day. The facility is located approximately 1 mile southwest of the intersection of Chemours Plant Road and State Highway 361, near the city of Gregory, in San Patricio County, Texas 78359. The discharge route is from the plant site via pipe from the Master Sump to an open ditch then directly to Corpus Christi Bay. TCEQ received this application on August 22, 2025. The permit application will be available for viewing and copying at Bell Whittington Public Library, Reference Desk, 2400 Memorial Parkway, Portland, in San Patricio 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=-97.259166,27.888888&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 Gregory Power Partners LLC at the address stated above or by calling Mr. Jaron Bergin, EHS Director, Calpine Corporation, at 713-570-4631.

Issuance Date: September 12, 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. WQ0005219000

SOLICITUD. Gregory Power Partners LLC, P.O. Box 36, Gregory, Texas 78359, que posee una planta de generación de electricidad a gas natural de ciclo combinado, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0005219000 (EPA I.D. No. TX0137502) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 918,000 galones por día. La instalación está ubicada aproximadamente 1 milla al suroeste de la intersección de Chemours Plant Road y State Highway 361, en el Condado de San Patricio, Texas. La ruta de descarga es desde el sitio de la planta a través de una tubería desde el sumidero maestro a una trinchera abierta y luego directamente a la bahía de Corpus Christi. La TCEQ recibió esta solicitud el 22 de agosto de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Pública Bell Whittington, Mesa de Referencia, 2400 Memorial Parkway, Portland, en el Condado de San Patricio, 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=-97.259166,27.888888&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 especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

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

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

También se puede obtener información adicional del Gregory Power Partners, LLC a la dirección indicada arriba o llamando a Sr. Jaron Bergin, Calpine Corporation, Director de EHS, al 713-570-4631.

Fecha de emisión: 12 de septiembre de 2025

Weston Solutions, Inc.
5301 Southwest Parkway, Suite 450
Austin, TX 78735
512-651-7100
WestonSolutions.com

22 August 2025

Executive Director
Application Review and Processing Team – MC148
Texas Commission on Environmental Quality
12100 Park 35 Circle, Bldg F, Rm 2101
Austin, Texas 78753

Via Email: wqdecopy@tceq.texas.gov

RE: Transmittal of Texas Pollutant Discharge Elimination System (TPDES) Permit Renewal Application WQ0005219000
RN 102547957 Gregory Power Facility
CN 604378208 Gregory Power Partners, LLC

Dear Sir or Madam:

Weston Solutions, Inc. (WESTON®) is pleased to submit this Texas Pollutant Discharge Elimination System (TPDES) permit renewal application for the above-referenced facility on behalf of Gregory Power Partners, LLC. The original application will be hand delivered to the above address.

Payment for the permit application fee has been made via ePay; documentation is included in the application.

Please contact me at 512-651-7104 or at nancy.koch@westonsolutions.com should you have any questions regarding this application.

Very truly yours,
Weston Solutions, Inc.

N. L. Koch

Nancy L. Koch, P.E.
Project Manager

cc: Bethany Santillan, Calpine
Ray Dube, Calpine

Attachments:
Attachment A – TPDES Renewal Application

ATTACHMENT A

TPDES RENEWAL APPLICATION

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the industrial wastewater permit application.

APPLICANT NAME: Gregory Power Partners, LLC

PERMIT NUMBER (If new, leave blank): WQ0005219000

Indicate if each of the following items is included in your application.

	Y	N			Y	N	
Administrative Report 1.0	☒	☐		Worksheet 8.0	☐	☒	
Administrative Report 1.1	☐	☒		Worksheet 9.0	☐	☒	
SPIF	☒	☐	**E**	Worksheet 10.0	☐	☒	
Core Data Form	☒	☐	**B**	Worksheet 11.0	☐	☒	
Public Involvement Plan Form	☐	☒		Worksheet 11.1	☐	☒	
Plain Language Summary	☒	☐	**C**	Worksheet 11.2	☐	☒	
Technical Report 1.0	☒	☐		Worksheet 11.3	☐	☒	
Worksheet 1.0	☒	☐		Original USGS Map	☒	☐	**D**
Worksheet 2.0	☒	☐		Affected Landowners Map	☐	☒	
Worksheet 3.0	☐	☒		Landowner Disk or Labels	☐	☒	
Worksheet 3.1	☐	☒		Flow Diagram	☒	☐	**G**
Worksheet 3.2	☐	☒		Site Drawing	☒	☐	**F**
Worksheet 3.3	☐	☒		Original Photographs	☒	☐	
Worksheet 4.0	☒	☐		Design Calculations	☐	☒	
Worksheet 4.1	☐	☒		Solids Management Plan	☐	☒	
Worksheet 5.0	☐	☒		Water Balance	☐	☒	
Worksheet 6.0	☐	☒					
Worksheet 7.0	☐	☒					

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs, except applications for oil and gas extraction operations subject to 40 CFR Part 435. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report.

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use the Oil and Gas Exploration and Production Administrative Report (TCEQ Form-20893 and 20893-inst[1]).

Item 1. Application Information and Fees (Instructions, Page 26)

a. Complete each field with the requested information, if applicable.

Applicant Name: Gregory Power Partners, LLC

Permit No.: WQ0005219000

EPA ID No.: TX0137502

Expiration Date: February 18, 2026

b. Check the box next to the appropriate authorization type.

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

c. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

d. Check the box next to the appropriate permit type.

☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

e. Check the box next to the appropriate application type.

☐ New

☒ Renewal with changes ☐ Renewal without changes

☐ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: Click to enter text.

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

[1] https://www.tceq.texas.gov/publications/search_forms.html

g. Application Fee

EPA Classification	New	Major Amend. (with or without renewal)	Renewal (with or without changes)	Minor Amend. / Minor Mod. (without renewal)
Minor facility not subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $350	☐ $350	☐ $315	☐ $150
Minor facility subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $1,250	☐ $1,250	☒ $1,215	☐ $150
Major facility	N/A [2]	☐ $2,050	☐ $2,015	☐ $450

h. Payment Information

Mailed

Check or money order No.: Click to enter text.

Check or money order amt.: Click to enter text.

Named printed on check or money order: Click to enter text.

Epay

Voucher number: 780050, 780051

Copy of voucher attachment: **A**

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN604378208

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[3].

b. Legal name of the entity (applicant) applying for this permit: Gregory Power Partners, LLC

Note: The owner of the facility must apply for the permit. The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Mr. Full Name (Last/First Name): Swinney/John

Title: Plant Manager Credential: Click to enter text.

d. Will the applicant have overall financial responsibility for the facility?

☐ Yes ☒ No

[2] All facilities are designated as minors until formally classified as a major by EPA.

[3] https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 3. Co-applicant Information (Instructions, Page 27)

☒ Check this box if there is no co-applicant.; otherwise, complete the below questions.

a. Legal name of the entity (co-applicant) applying for this permit: Click to enter text.

Note: The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

b. Customer Number (if applicant is an existing customer): CN

Note: Locate the customer number using the TCEQ's Central Registry Customer Search.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Mr. Full Name (Last/First Name): Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

d. Will the co-applicant have overall financial responsibility for the facility?

☐ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 4. Core Data Form (Instructions, Pages 27)

a. Complete one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)) and include as an attachment. If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: **B**

Item 5. Application Contact Information (Instructions, Page 27)

Provide names of two individuals who can be contact for additional information about this application. Indicate if the individual can be contact about administrative or technical information, or both.

a. ☒ Administrative Contact . ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Koch/Nancy

Title: Project Manager Credential: P.E.

Organization Name: Weston Solutions, Inc.

Mailing Address: 5301 Southwest Parkway, Suite 450 City/State/Zip: Austin, TX 78735

Phone No: 512-651-7104 Email: nancy.koch@westonsolutions.com

b. ☒ Administrative Contact ☒ Technical Contact

Prefix: Mr. Full Name (Last/First Name): Dube/Ray

Title: EHS Manager Credential: Click to enter text.

Organization Name: Calpine Corporation

Mailing Address: 717 Texas Avenue, Suite 1000 City/State/Zip: Houston, TX 77002

Phone No: 830-305-8429 Email: ray.dube@calpine.com

Attachment: Click to enter text.

Item 6. Permit Contact Information (Instructions, Page 28)

Provide two names of individuals that can be contacted throughout the permit term.

a. Prefix: Mr. Full Name (Last/First Name): Pate/Ty

Title: VP Central Region Operations Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: 717 Texas Avenue, Suite 1000 City/State/Zip: Houston, TX 77002

Phone No: 713-570-4823 Email: ty.pate@calpine.com

b. Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Attachment: Click to enter text.

Item 7. Billing Contact Information (Instructions, Page 28)

The permittee is responsible for paying the annual fee. The annual fee will be assessed for permits **in effect on September 1 of each year**. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (form TCEQ-20029).

Provide the complete mailing address where the annual fee invoice should be mailed and the name and phone number of the permittee's representative responsible for payment of the invoice.

Prefix: Ms. Full Name (Last/First Name): Garza/Angela

Title: Business Manager Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 361-777-3062 Email: angela.garza@calpine.com

Item 8. DMR/MER Contact Information (Instructions, Page 28)

Provide the name and mailing address of the person delegated to receive and submit DMRs or MERs. **Note:** DMR data must be submitted through the NetDMR system. An electronic reporting account can be established once the facility has obtained the permit number.

Prefix: Ms. Full Name (Last/First Name): Santillan/Bethany

Title: EHS Specialist III Credential: Click to enter text.

Organization Name: Calpine Corporation

Mailing Address: PO Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 361-696-7707 Email: bethany.santillan@calpine.com

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms. Full Name (Last/First Name): Koch/Nancy

Title: Project Manager Credential: P.E.

Organization Name: Weston Solutions, Inc.

Mailing Address: 5301 Southwest Parkway, Suite 450 City/State/Zip: Austin, TX 78735

Phone No: 512-651-7104 Email: nancy.koch@westonsolutions.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package (only for NORI, NAPD will be sent via regular mail)

☒ E-mail: Nancy.Koch@westonsolutions.com

☐ Fax: Click to enter text.

☐ Regular Mail (USPS)

Mailing Address: Click to enter text.

City/State/Zip Code: Click to enter text.

c. Contact in the Notice

Prefix: Mr. Full Name (Last/First Name): Dube/Ray

Title: EHS Manager Credential: Click to enter text.

Organization Name: Calpine Corporation

Phone No: 830-305-8429 Email: ray.dube@calpine.com

d. Public Viewing Location Information

Note: If the facility or outfall is located in more than one county, provide a public viewing place for each county.

Public building name: Bell Whitington Public Library Location within the building: Reference Desk

Physical Address of Building: 2400 Memorial Parkway

City: Portland County: San Patricio

e. Bilingual Notice Requirements

This information is required for new, major amendment, minor amendment or minor modification, and renewal applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is required.

1. 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 ☐ No

If no, publication of an alternative language notice is not required; skip to Item 8 (Regulated Entity and Permitted Site Information.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☒ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☒ Yes ☐ No

4. 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)?

   ☐ Yes ☒ No ☐ N/A

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

f. Plain Language Summary Template – Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment. Attachment: **C**

g. Complete one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment and include as an attachment. Attachment: Click to enter text.

Item 10. Regulated Entity and Permitted Site Information (Instructions Page 29)

a. TCEQ issued Regulated Entity Number (RN), if available: RN102547957

Note: If your business site is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.

b. Name of project or site (the name known by the community where located): Gregory Power Facility

c. Is the location address of the facility in the existing permit the same?

☒ Yes ☐ No ☐ N/A (new permit)

Note: If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.

d. Owner of treatment facility:

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Gregory Power Partners, LLC

Mailing Address: PO Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 281-615-1502 Email: john.swinney@calpine.com

e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be: Click to enter text.

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Cheniere Land Holdings, LLC

Mailing Address: 700 Milam St, Suite 1900 City/State/Zip: Houston, TX 77002

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: I

g. Owner of effluent TLAP disposal site (if applicable): N/A

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

h. Owner of sewage sludge disposal site (if applicable):

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

Item 11. TDPES Discharge/TLAP Disposal Information (Instructions, Page 31)

a. Is the facility located on or does the treated effluent cross Native American Land?

☐ Yes ☒ No

b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.

☒ One-mile radius	☐ Three-miles downstream information
☒ Applicant's property boundaries	☐ Treatment facility boundaries
☒ Labeled point(s) of discharge	☒ Highlighted discharge route(s)
☐ Effluent disposal site boundaries	☐ All wastewater ponds
☐ Sewage sludge disposal site	☐ New and future construction

Attachment: **D**

c. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: N/A

d. Are the point(s) of discharge in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

e. Are the discharge route(s) in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): Gregory

g. County in which the outfalls(s) is/are located: San Patricio

h. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If yes, indicate by a check mark if: ☐ Authorization granted ☐ Authorization pending

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: Click to enter text.

i. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes No or New Permit ☐ Not applicable, not a TLAP

If no, or a new application, provide an accurate location description: Click to enter text.

j. City nearest the disposal site: Not applicable, not a TLAP. Nearest city is Gregory.

k. County in which the disposal site is located: Not applicable, there is no disposal site. Outfall 001 is located in San Patrico County

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: Not applicable; not a TLAP.

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Not applicable; not a TLAP.

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ0005219000

Applicant Name: Gregory Power Partners, LLC

Certification: I, John Swinney, 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.

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

Signatory name (typed or printed): John Swinney

Signatory title: Plant Manager

Signature: John W Swinney (Use blue ink) Date: 8-19-25

Subscribed and Sworn to before me by the said John W. Swinney

on this 19 day of August, 20 25.

My commission expires on the 01 day of 15, 20 27.

Melissa Lara
Notary Public

[SEAL] Melissa Lara
My Commission Expires
1/15/2027
Notary ID131854643

Nueces
County, Texas

Note: *If co-applicants are necessary, each entity must submit an original, separate signature page.*

CALPINE

DELEGATION OF SIGNATURE AUTHORITY MEMORANDUM

To: Delegation of Authority@calpine.com

From: Ty Pate, Vice President Regional Operations

Subject: Delegation of Signature Authority

Date: December 1, 2024

Commencing upon the effective date set forth below and continuing until the earliest of (i) the expiration date set forth below, or (ii) the date upon which the individual to whom authority is being delegated ("Delegatee") is no longer an employee of Calpine Corporation or any of its affiliates, or (iii) the date upon which I, the individual who is delegating authority hereunder, am no longer an employee or an Elected Officer of Calpine Corporation or any of its affiliates, I hereby authorize, empower and direct the Delegatee to execute agreements, documents, contracts, instruments and certificates as set forth below, for and on behalf of the Calpine entity identified below, that the Delegatee deems necessary or advisable in order to carry out the business of such Calpine entity, consistent with the policies and procedures of Calpine Corporation, including Calpine's Signature Authority and Expenditure Approval Authority Limits Policy; provided, however, that obligations arising from such acts do not exceed the maximum dollar amount set forth below.

Delegatee:	John Swinney
Title:	Plant Manager
Calpine entity for which authority is granted:	Gregory Power Partners LLC
Type of Transaction / Type of Contract:	All routine environmental, health and safety related regulatory and permit filings
Maximum dollar amount:	N/A
Effective date:	12/01/2024
Expiration date:	12/01/2025

ok
NH
12/2/24

When executing agreements for and on behalf of the Calpine entity identified above, the Delegatee shall use the following signature block:

Gregory Power Partners LLC

DS MA

By: Signed by: 23EF0E950E4F47...

Name: John Swinney

Title: Authorized Signatory and Plant Manager

Any and all actions taken or caused to be taken by the Delegatee in the conduct of the business of the Calpine entity identified above in connection with any of the matters contemplated by this delegation of signature authority, prior to the date hereof, are hereby acknowledged to be duly authorized acts and deeds performed on behalf of such Calpine entity and are hereby approved, adopted, accepted and ratified in all respects as the acts and deeds of such Calpine entity and that said actions shall have the same force and effect as if they were taken with the prior approval of such Calpine entity. This memorandum supersedes any and all previous delegations of such authority on behalf of such Calpine entity to the Delegatee.

The Delegatee shall not further delegate the authority granted herein.

Sincerely,

DocuSigned by: Ty Pate AD7AF918AAD74AD...

DS MA

Ty Pate

Vice President Regional Operations

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: E

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 Gregory Power Facility is a combined cycle natural gas fired facility with a generation capacity of approximately 388 MW electric and a steam capacity of approximately 140 MW equivalent. SIC Code = 4911, NAICS Code = 22112.

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

The facility utilizes water supplied by San Patricio Municipal Water District (SPMWD). This water is further processed as needed in support of the power generation operations. Wastewater is generated from cooling tower blowdown and low volume wastes. Low volume wastes include gas turbine wash water (no chemicals), neutralized demineralizer regenerate waste, and general washdown water via an oil/water separator. Cooling tower blowdown is discharged through Internal Outfall 101 and low volume wastes are discharged through Internal Outfall 201 where they are collected in the master sump before being discharged through Outfall 001 to Corpus Christi Bay. Please note that domestic wastewater and chemical metal cleaning waste are generated; however, these wastes are transported off-site for disposal.

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

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

Materials List

Raw Materials	Intermediate Products	Final Products
Water, 7732-18-5	Demineralized Water	Electricity
Natural Gas, 68410-63-9	Steam	
Water Treatment Additives (see Attachment H)		

Attachment: Click to enter text.

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

- 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: F

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

☐ Yes ☒ No

If **yes**, provide background discussion: Click to enter text.

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 Flood Map 48409C0445E

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: Click to enter text.

Attachment: Click to enter text.

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: Click to enter text.

If **no**, provide an approximate date of application submittal to the USACE: Click to enter text.

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.

All wastewater (except domestic) is collected in the master sump prior to discharge. With the goal of multi-unit and continuous chlorination in the cooling towers (see minor amendment request), sodium bisulfate will be used to de-chlorinate cooling tower blowdown. General wastewater and oily wastewaters are routed through an oil/water separator prior to discharge to the master sump.

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: G

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 #**	**Pond #**	**Pond #**	**Pond #**
Use Designation: (T) (D) (C) or (E)				
Associated Outfall Number				
Liner Type (C) (I) (S) or (A)				
Alt. Liner Attachment Reference				
Leak Detection System, Y/N				
Groundwater Monitoring Wells, Y/N				
Groundwater Monitoring Data Attachment				
Pond Bottom Located Above The Seasonal High-Water Table, Y/N				
Length (ft)				
Width (ft)				
Max Depth From Water Surface (ft), Not Including Freeboard				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
40 CFR Part 257, Subpart D, Y/N				
Date of Construction				

Attachment: Click to enter text.

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

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

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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/0r 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	27.878333	-97.257778
101	27.888611	-97.260278
201	27.888611	-97.260278

Outfall Location Description

Outfall No.	Location Description
001	Concrete spillway ~ 200 feet north of La Quinta Channel/Corpus Christi Bay
101	Cooling Tower Blowdown Effluent to Master Sump
201	Low Volume Waste Effluent to Master Sump

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

Outfall No.	Description of sampling point
001	After the exit from the master sump and prior to discharge to the east ditch
101	Sample tap in cooling tower blowdown line leading to master sump
201	Sample tap in low volume waste line leading to master sump

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	0.918	2.11	same	same	
101	0.832	0.999	same	same	
201	0.085	1.105	same	same	

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	Y	N	Flow meter
101	Y	N	Magnetic flow meter
201	Y	N	Magnetic flow meter

Outfall Discharge – Flow Characteristics

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

Outfall Wastestream Contributions

Outfall No. 001

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Cooling Tower Blowdown (Outfall 101)	0.832	90.6
Low Volume Waste (Outfall 201)	0.085	9.3

Outfall No. 101

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Cooling Tower Blowdown	0.832	100

Outfall No. 201

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Low Volume Waste	0.085	100

Attachment: Click to enter text.

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: H

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	2	832,300	999,000
Boilers	2 HSRGs + 2 Aux Boilers	49,000	59,000

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:

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: Domestic sewage is collected and hauled off site by a licensed septic hauler.

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

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	**Permit/Registration No.**
Texas Throne, LLC	24337
City of Corpus New Broadway Plant	WQ0010401005

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: Construction projects are currently in progress; however, no changes to wastewater types or increases in wastewater generation will result from these facility modifications.

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: Click to enter text.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** Click to enter text.

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: Click to enter text.

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: Click to enter text.

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)

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)

Item 12. Cooling Water (Instructions, Page 46)

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

☒ Yes ☐ No

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

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	W.A. Edwards Nueces River Raw Water Pump Station			
Owner	San Patricio Municipal Water District			
Operator	San Patricio Municipal Water District			

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

   ☒ Yes ☐ No

   If **no**, continue. If **yes**, provide the PWS Registration No. and stop here: PWS No. 2050011

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

   ☐ Yes ☐ No

   If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here: Click to enter text.

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

   ☐ Yes ☐ No

   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: Click to enter text.

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 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

   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*: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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.

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

☒ Yes ☐ No

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

1. We are requesting to remove internal Outfall 301, as domestic wastewater is transported off-site for disposal. 2. We are requesting that Other Requirement 3(f)(1) be amended to allow for multi-chlorination and continuous chlorination by adding the following language ”Simultaneous multi-unit chlorination and continuous chlorination is permitted. The permittee shall dechlorinate continuously during the periods of continuous chlorination” We request that the associated Other Requirement 3(f)(2) be deleted and Other Requirement 3(f)(3) be revised to indicate that the effluent is sufficiently dechlorinated when total residual chlorine concentrations are below 0.1 mg/L; during these periods of sufficient de-chlorination, a value of zero is to be used to calculate loading. Currently Gregory cannot operate at or below the level as provided in the current permit. Gregory has experienced reduced efficiency at the cooling tower and must run every fan; if one fan fails,

the plant must be derated while the fan is repaired or replaced. Biological growth has been observed in the tower as well. Running low chlorine in the cooling tower can lead to a cascade of problems, including microbial growth, health risks, reduced efficiency, equipment damage, and increased operating costs. 3. For Outfall 201, we are requesting an increase in the daily average flow limit from 0.085 million gallons per day (MGD) to 1.1 MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

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

☐ Yes ☒ No

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

Click to enter text.

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: John Swinney

Title: Director Plant Manager

Signature: John Swinney

Date: 8-19-25

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
Power Generation – Combined Cycle Generating Units	423

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
No production-based limits			

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units

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
N/A			

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.

Utility wastewater consists of Cooling Tower Blowdown and Low Volume Waste. Domestic sewage and chemical metal cleaning wastes are hauled off-site for disposal.

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
Cooling Tower Blowdown	40 CFR 423	423.15(a)(1)	1999
Low volume waste	40 CFR 423	423.15(a)(3)	1999

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): 5/19/2025-6/10/2025

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:** I

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:** Not applicable

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)
BOD (5-day)	< 2.00	3.31	2.45	< 2.00
CBOD (5-day)	< 2.00	< 2.00	< 2.00	< 2.00
Chemical oxygen demand	30.0	36.0	30.0	51.0
Total organic carbon	16.0	23.0	14.3	16.1
Dissolved oxygen	7.17	7.03	7.38	7.14
Ammonia nitrogen	0.20	0.20	0.26	0.15
Total suspended solids	28.0	23.8	54.5	24.3
Nitrate nitrogen	1.67	0.83	0.99	0.82
Total organic nitrogen	2.5	1.6	0.6	1.3
Total phosphorus	0.944	0.979	0.920	1.52
Oil and grease	< 2.00	2.38	< 2.00	< 2.00
Total residual chlorine	< 0.02	< 0.02	0.04	< 0.02

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total dissolved solids	1,930	2,130	2,370	2,800
Sulfate	808	634	721	809
Chloride	819	682	669	776
Fluoride	1.31	1.13	1.20	1.34
Total alkalinity (mg/L as CaCO3)	106	98.7	96.3	102
Temperature (˚F)	97.2	96.3	85.2	81.6
pH (standard units)	7.91	7.89	7.71	7.88

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)
Aluminum, total	233	171	414	269	2.5
Antimony, total	< 5	< 5	< 5	< 5	5
Arsenic, total	27.6	22.5	27.9	30.8	0.5
Barium, total	379	329	354	357	3
Beryllium, total	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Cadmium, total	< 1	< 1	< 1	< 1	1
Chromium, total	< 3	< 3	3.91	5.56	3
Chromium, hexavalent	< 3	< 3	< 3	< 3	3
Chromium, trivalent	< 3	< 3	4	6	N/A
Copper, total	7.24	5.49	7.43	8.50	2
Cyanide, available	< 5	< 5	< 5	< 5	2/10
Lead, total	< 0.5	< 0.5	0.75	< 0.5	0.5
Mercury, total	0.0039	0.0048	< 0.0005	0.0058	0.005/0.0005
Nickel, total	3.31	2.65	3.61	4.74	2
Selenium, total	< 5	< 5	< 5	< 5	5
Silver, total	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Thallium, total	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Zinc, total	41.2	57.3	41.5	58.8	5.0

TABLE 3 (Instructions, Page 58)

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

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

Table 3 for Outfall No.: Click to enter text. **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)***
Acrylonitrile					50
Anthracene					10
Benzene					10
Benzidine					50
Benzo(a)anthracene					5
Benzo(a)pyrene					5
Bis(2-chloroethyl)ether					10
Bis(2-ethylhexyl)phthalate					10
Bromodichloromethane [Dichlorobromomethane]					10
Bromoform					10
Carbon tetrachloride					2
Chlorobenzene					10
Chlorodibromomethane [Dibromochloromethane]					10
Chloroform					10
Chrysene					5
m-Cresol [3-Methylphenol]					10
o-Cresol [2-Methylphenol]					10
p-Cresol [4-Methylphenol]					10
1,2-Dibromoethane					10
m-Dichlorobenzene [1,3-Dichlorobenzene]					10
o-Dichlorobenzene [1,2-Dichlorobenzene]					10
p-Dichlorobenzene [1,4-Dichlorobenzene]					10
3,3'-Dichlorobenzidine					5
1,2-Dichloroethane					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1-Dichloroethene [1,1-Dichloroethylene]					10
Dichloromethane [Methylene chloride]					20
1,2-Dichloropropane					10
1,3-Dichloropropene [1,3-Dichloropropylene]					10
2,4-Dimethylphenol					10
Di-n-Butyl phthalate					10
Ethylbenzene					10
Fluoride					500
Hexachlorobenzene					5
Hexachlorobutadiene					10
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Methyl ethyl ketone					50
Nitrobenzene					10
N-Nitrosodiethylamine					20
N-Nitroso-di-n-butylamine					20
Nonylphenol					333
Pentachlorobenzene					20
Pentachlorophenol					5
Phenanthrene					10
Polychlorinated biphenyls (PCBs) (**)					0.2
Pyridine					20
1,2,4,5-Tetrachlorobenzene					20
1,1,2,2-Tetrachloroethane					10
Tetrachloroethene [Tetrachloroethylene]					10
Toluene					10
1,1,1-Trichloroethane					10
1,1,2-Trichloroethane					10
Trichloroethene [Trichloroethylene]					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
2,4,5-Trichlorophenol					50
TTHM (Total trihalomethanes)					10
Vinyl chloride					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 "<".

TABLE 4 (Instructions, Pages 58-59)

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

a. **Tributyltin**

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

☐ Yes ☒ No

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

☐ Manufacturers and formulators of tributyltin or related compounds.

☐ Painting of ships, boats and marine structures.

☐ Ship and boat building and repairing.

☐ Ship and boat cleaning, salvage, wrecking and scaling.

☐ Operation and maintenance of marine cargo handling facilities and marinas.

☐ Facilities engaged in wood preserving.

☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. **Enterococci (discharge to saltwater)**

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

c. E. coli (discharge to freshwater)

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	**Sample 1**	**Sample 2**	**Sample 3**	**Sample 4**	**MAL**
Tributyltin (µg/L)					0.010
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					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.: Click to enter text. **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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [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)*
Bromide	☒	☐	0.967	< 0.400	< 0.400	< 0.400	400
Color (PCU)	☒	☐	30.0	45.0	35.0	45.0	—
Nitrate-Nitrite (as N)	☒	☐	1.86	1.25	1.08	1.23	—
Sulfide (as S)	☒	☐	< 5	17.4	< 5	< 5	—
Sulfite (as SO3)	☐	☒	< 5	< 5	< 5	< 5	—
Surfactants	☒	☐	0.067	< 0.050	< 0.050	0.066	—
Boron, total	☒	☐	1.13	0.95	1.05	1.32	20
Cobalt, total	☒	☐	0.00038	0.00032	0.00065	0.00032	0.3
Iron, total	☒	☐	0.250	0.262	0.551	0.412	7
Magnesium, total	☒	☐	46.3	34.7	45.7	42.7	20
Manganese, total	☒	☐	0.110	0.050	0.101	0.055	0.5
Molybdenum, total	☒	☐	0.0086	0.0067	0.0069	0.0083	1
Tin, total	☐	☒	< 0.005	< 0.005	< 0.005	< 0.005	5
Titanium, total	☐	☒	< 0.03	< 0.03	< 0.03	< 0.03	30

TABLE 7 (Instructions, Page 60)

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

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/ Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☒ Steam Electric Power Plants	423	☒ Yes	☒ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

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

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

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

Table 8 for Outfall No.: 001 **Samples are (check one): ☐ Composite ☒ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	< 50	< 50	< 50	< 50	50
Acrylonitrile	< 50	< 50	< 50	< 50	50
Benzene	< 10	< 10	< 10	< 10	10
Bromoform	< 10	< 10	< 10	< 10	10
Carbon tetrachloride	< 2	< 2	< 2	< 2	2
Chlorobenzene	< 10	< 10	< 10	< 10	10
Chlorodibromomethane	< 10	< 10	< 10	< 10	10
Chloroethane	< 50	< 50	< 50	< 50	50
2-Chloroethylvinyl ether	< 10	< 10	< 10	< 10	10
Chloroform	< 10	< 10	< 10	< 10	10
Dichlorobromomethane [Bromodichloromethane]	< 10	< 10	< 10	< 10	10
1,1-Dichloroethane	< 10	< 10	< 10	< 10	10
1,2-Dichloroethane	< 10	< 10	< 10	< 10	10
1,1-Dichloroethylene [1,1-Dichloroethene]	< 10	< 10	< 10	< 10	10
1,2-Dichloropropane	< 10	< 10	< 10	< 10	10
1,3-Dichloropropylene [1,3-Dichloropropene]	< 10	< 10	< 10	< 10	10
Ethylbenzene	< 10	< 10	< 10	< 10	10
Methyl bromide [Bromomethane]	< 50	< 50	< 50	< 50	50
Methyl chloride [Chloromethane]	< 50	< 50	< 50	< 50	50
Methylene chloride [Dichloromethane]	< 20	< 20	< 20	< 20	20
1,1,2,2-Tetrachloroethane	< 10	< 10	< 10	< 10	10
Tetrachloroethylene [Tetrachloroethene]	< 10	< 10	< 10	< 10	10
Toluene	< 10	< 10	< 10	< 10	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	< 10	< 10	< 10	< 10	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
1,1,1-Trichloroethane	< 10	< 10	< 10	< 10	10
1,1,2-Trichloroethane	< 10	< 10	< 10	< 10	10
Trichloroethylene [Trichloroethene]	< 10	< 10	< 10	< 10	10
Vinyl chloride	< 10	< 10	< 10	< 10	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)
2-Chlorophenol	< 10	< 10	< 10	< 10	10
2,4-Dichlorophenol	< 10	< 10	< 10	< 10	10
2,4-Dimethylphenol	< 10	< 10	< 10	< 10	10
4,6-Dinitro-o-cresol	< 50	< 50	< 50	< 50	50
2,4-Dinitrophenol	< 50	< 50	< 50	< 50	50
2-Nitrophenol	< 20	< 20	< 20	< 20	20
4-Nitrophenol	< 50	< 50	< 50	< 50	50
p-Chloro-m-cresol	< 10	< 10	< 10	< 10	10
Pentachlorophenol	< 5	< 5	< 5	< 5	5
Phenol	< 10	< 10	< 10	< 10	10
2,4,6-Trichlorophenol	< 10	< 10	< 10	< 10	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: Click to enter text. **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)
Acenaphthene					10
Acenaphthylene					10
Anthracene					10
Benzidine					50
Benzo(a)anthracene					5
Benzo(a)pyrene					5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]					10
Benzo(ghi)perylene					20
Benzo(k)fluoranthene					5
Bis(2-chloroethoxy)methane					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Bis(2-chloroethyl)ether					10
Bis(2-chloroisopropyl)ether					10
Bis(2-ethylhexyl)phthalate					10
4-Bromophenyl phenyl ether					10
Butylbenzyl phthalate					10
2-Chloronaphthalene					10
4-Chlorophenyl phenyl ether					10
Chrysene					5
Dibenzo(a,h)anthracene					5
1,2-Dichlorobenzene [o-Dichlorobenzene]					10
1,3-Dichlorobenzene [m-Dichlorobenzene]					10
1,4-Dichlorobenzene [p-Dichlorobenzene]					10
3,3'-Dichlorobenzidine					5
Diethyl phthalate					10
Dimethyl phthalate					10
Di-n-butyl phthalate					10
2,4-Dinitrotoluene					10
2,6-Dinitrotoluene					10
Di-n-octyl phthalate					10
1,2-Diphenylhydrazine (as Azobenzene)					20
Fluoranthene					10
Fluorene					10
Hexachlorobenzene					5
Hexachlorobutadiene					10
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Indeno(1,2,3-cd)pyrene					5
Isophorone					10
Naphthalene					10
Nitrobenzene					10
N-Nitrosodimethylamine					50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
N-Nitrosodi-n-propylamine					20
N-Nitrosodiphenylamine					20
Phenanthrene					10
Pyrene					10
1,2,4-Trichlorobenzene					10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: Click to enter text. **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
alpha-BHC [alpha-Hexachlorocyclohexane]					0.05
beta-BHC [beta-Hexachlorocyclohexane]					0.05
gamma-BHC [gamma-Hexachlorocyclohexane]					0.05
delta-BHC [delta-Hexachlorocyclohexane]					0.05
Chlordane					0.2
4,4'-DDT					0.02
4,4'-DDE					0.1
4,4'-DDD					0.1
Dieldrin					0.02
Endosulfan I (alpha)					0.01
Endosulfan II (beta)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Endrin aldehyde					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
PCB 1242					0.2
PCB 1254					0.2
PCB 1221					0.2
PCB 1232					0.2
PCB 1248					0.2

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
PCB 1260					0.2
PCB 1016					0.2
Toxaphene					0.3

* Indicate units if different from µg/L.

Attachment: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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

Table 12 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
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.: Click to enter text. **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

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: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

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: > 400 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: Click to enter text.

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: Generally, to the west of Outfall 001, constructed as part of the La Quinta Channel extension.

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.

ATTACHMENT A

PAYMENT DOCUMENTATION

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number: 582EA000681712
Date: 08/19/2025 01:43 PM
Payment Method: CC - Authorization 0000096724
ePay Actor: ANGELA GARZA
Actor Email: angela.garza@calpine.com
IP: 155.190.17.67
TCEQ Amount: $2,015.00
Texas.gov Fee: $45.59
Texas.gov Price: $2,060.59*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name: ANGELA GARZA
Company: CALPINE
Address: 4633A HWY 361, GREGORY, TX 78359
Phone: 361-777-3062

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
780050	WW PERMIT - MAJOR INDUSTRIAL FACILITY - RENEWAL		$2,000.00
780051	30 TAC 305.53B WQ RENEWAL NOTIFICATION FEE		$15.00
		TCEQ Amount:	$2,015.00

ePay Again | Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

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ATTACHMENT B

CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☒ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 604378208		**RN 102547957**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	7/1/2025

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Gregory Power Partners, LLC	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
801846854	15419106305	541910630	158590716

11. Type of Customer:	☒ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☐ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	PO Box 36						
	City	Gregory	**State**	TX	**ZIP**	78359	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	Ray.Dube@calpine.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(830) 305-8429		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Gregory Power Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	4633A HWY 361							
	City	Gregory	**State**	TX	**ZIP**	78359	**ZIP + 4**	
24. County	San Patricio							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	27.878432		**28. Longitude (W) In Decimal:**	-97.257775	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
4911		22112	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Electrical power generation

34. Mailing Address:	**PO Box 36**							
	City	**Gregory**	**State**	**TX**	**ZIP**	**78359**	**ZIP + 4**	
35. E-Mail Address:	**John.swinney@calpine.com**							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(281) 615-1502		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☒ Industrial Hazardous Waste
				97396
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0005219000			

SECTION IV: Preparer Information

40. Name:	Nancy L. Koch	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 651-7104		( ) -	nancy.koch@westonsolutions.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Gregory Power Partners, LLC	**Job Title:**	Plant Manager
Name *(In Print):*	John Swinney	**Phone:**	(281) 615- **1502**
Signature:	John Swinney	**Date:**	8-19-25

ATTACHMENT C

PLAIN LANGUAGE SUMMARY

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.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements. After filling in the information for your facility delete these instructions.

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.

Gregory Power Partners, LLC (CN604378208) operates Gregory Power Facility (RN102547957), a power generating facility. The facility is located at 4633A Texas Highway 361, in Gregory, San Patricio County, Texas 78359. The facility has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005219000 to authorize the discharge of industrial wastewater at a volume not to exceed a daily average flow of 918,000 gallons per day.

Discharges from the facility are expected to contain free available chlorine, copper, zinc, free cyanide, chromium, total suspended solids, and oil and grease. Types of wastewater discharged from the facility include previously monitored effluents through Outfall 001. Previously monitored effluents discharged through Outfall 001 are cooling tower blowdown from internal Outfall 101 and low volume waste sources from internal Outfall 201. Cooling tower blowdown from internal Outfall 101 is dechlorinated prior to discharge through Outfall 001. Low volume waste sources from internal Outfall 201 are treated by an oil water

separator prior to comingling with other wastewaters for discharge through Outfall 001.

The following minor amendments are being requested: 1: remove the authorization for the discharge of domestic waster and remove internal Outfall 301; 2: revise Other Requirement 3f(2) to allow for multi-chlorination and continuous chlorination in the cooling towers and revise Other Requirement 3f(3) to allow the use of zero when results are less than the detection limit for chlorine loading; and 3: for Outfall 201, an increase the daily average flow rate from 0.085 million gallons per day (MGD) to 1.1 MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

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.

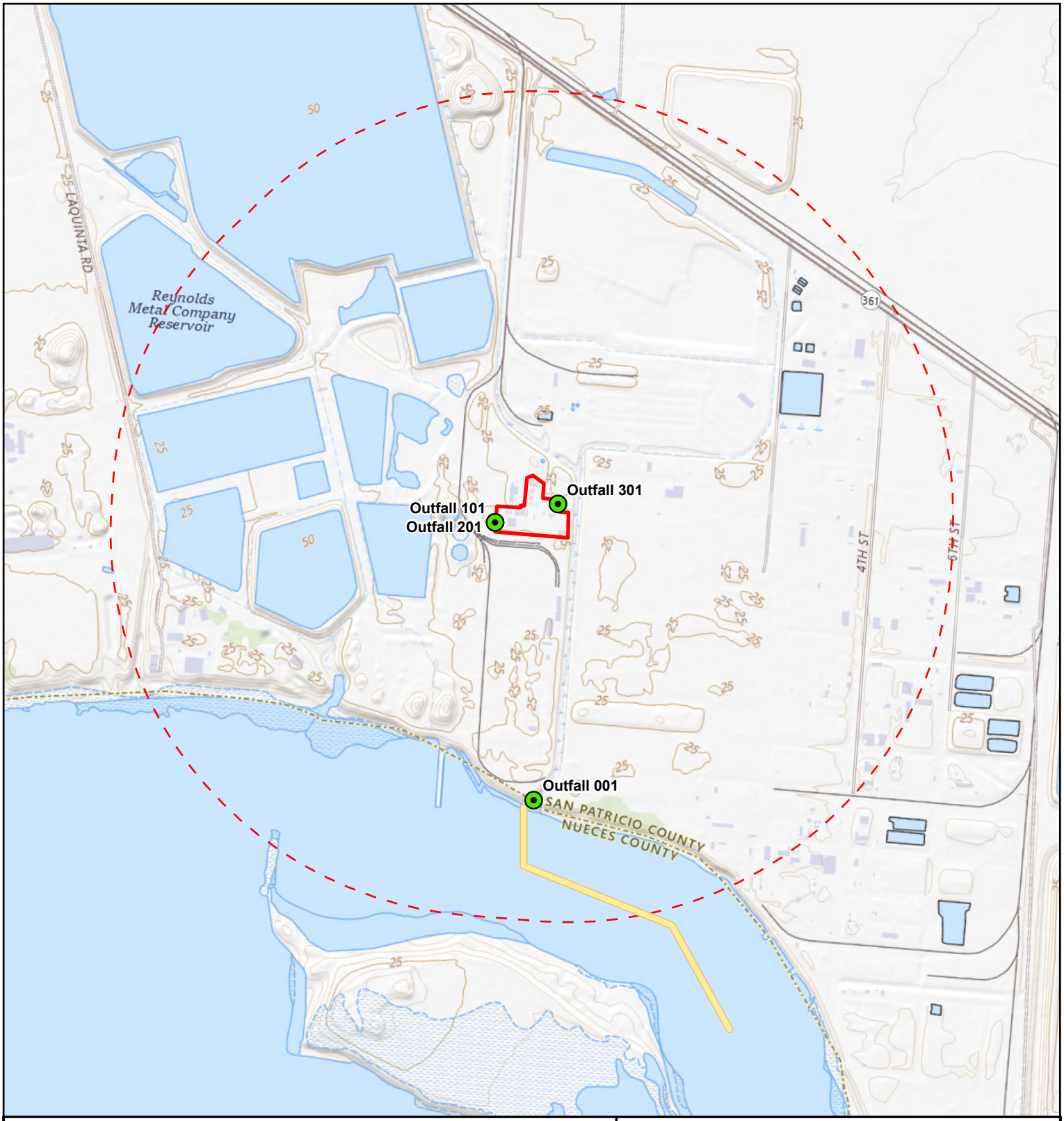
Gregory Power Partners, LLC (CN604378208) opera Gregory Power Facility (RN102547957), una instalación de generación de energía. La instalación está ubicada en 4633A Texas Highway 361, en Gregory, Condado de San Patricio, Texas 78359. La instalación ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) la renovación del Permiso del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) No. WQ0005219000 para autorizar la descarga de aguas residuales industriales a un volumen que no exceda un promedio diario de 918,000 galones por día.

Se espera que las descargas de la instalación contengan cloro libre disponible, cobre, zinc, cianuro libre, cromo, sólidos suspendidos totales, aceite y grasa. Los tipos de aguas residuales descargadas de la instalación incluyen efluentes previamente monitoreados a través del emisario 001. Los efluentes monitoreados previamente descargaron de emisario 001 son la purga de la torre de enfriamento de emisario interno 101 y fuentes de desechos de bajo volumen desde emisario interno 201. La purga de la torre de enfriamiento es desclorado antes de ser descargado a través del emisario 001. Las fuentes de desechos de bajo volumen del emisario interno 201 se tratan mediante un separador de aceite y agua antes de mezclarse con otras aguas residuales para su descarga a través del emisario 001.

Se solicitan las siguientes enmiendas menores: 1: eliminar la autorización para el vertido de aguas residuales domésticas y eliminar la Salida interna 301; 2: revisar el Requisito adicional 3f(2) para permitir la multi-cloración y la cloración continua en las torres de enfriamiento y revisar el Requisito adicional 3f(3) para permitir el uso de cero cuando los resultados son inferiores al límite de detección para la carga de cloro; y 3: para la Salida 201, un aumento en la tasa de flujo promedio diario de 0.085 millones de galones por día (MGD) a 1.1 MGD y un aumento en la tasa de flujo máxima diaria de 1.105 MGD a 1.25 MGD.

ATTACHMENT D

USGS MAP



Legend

- Outfall
- Discharge Route
- One-mile Buffer
- Property Boundary

0 800 1,600 Feet

N

Source: Esri - USGS Topoographic Map; Updated 2025 WGS 1984 Web Mercator Auxiliary Sphere

USGS Topographic Map
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

	DATE	PROJECT NO
WESTON SOLUTIONS	Jul 2025	14847.027.002.0001

ATTACHMENT E

SUPPLEMENTAL PERMIT INFORMATION FORM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: _____Renewal _____Major Amendment ____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

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

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

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

The following applies to all applications:

1. Permittee: Gregory Power Partners, LLC; and Calpine Operating Services Company, Inc.

   Permit No. WQ00 05219000 EPA ID No. TX 0137502

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

   4633A Texas Highway 361, Gregory, TX 78359

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): Ms.

First and Last Name: Bethany Santillan

Credential (P.E, P.G., Ph.D., etc.): Click here to enter text.

Title: EHS Specialist

Mailing Address: P.O. Box 36

City, State, Zip Code: Gregory, TX 78359

Phone No.: 361.696.7707 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: Bethany.santillan@calpine.com

2. List the county in which the facility is located: San Patricio
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

4. 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 Outfall 001 directly to Corpus Christi Bay in Segment No. 2481 of the Bays and Estuaries.

5. 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).

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

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

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

☐ Disturbance of vegetation or wetlands

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

N/A

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

Existing land use is industrial.

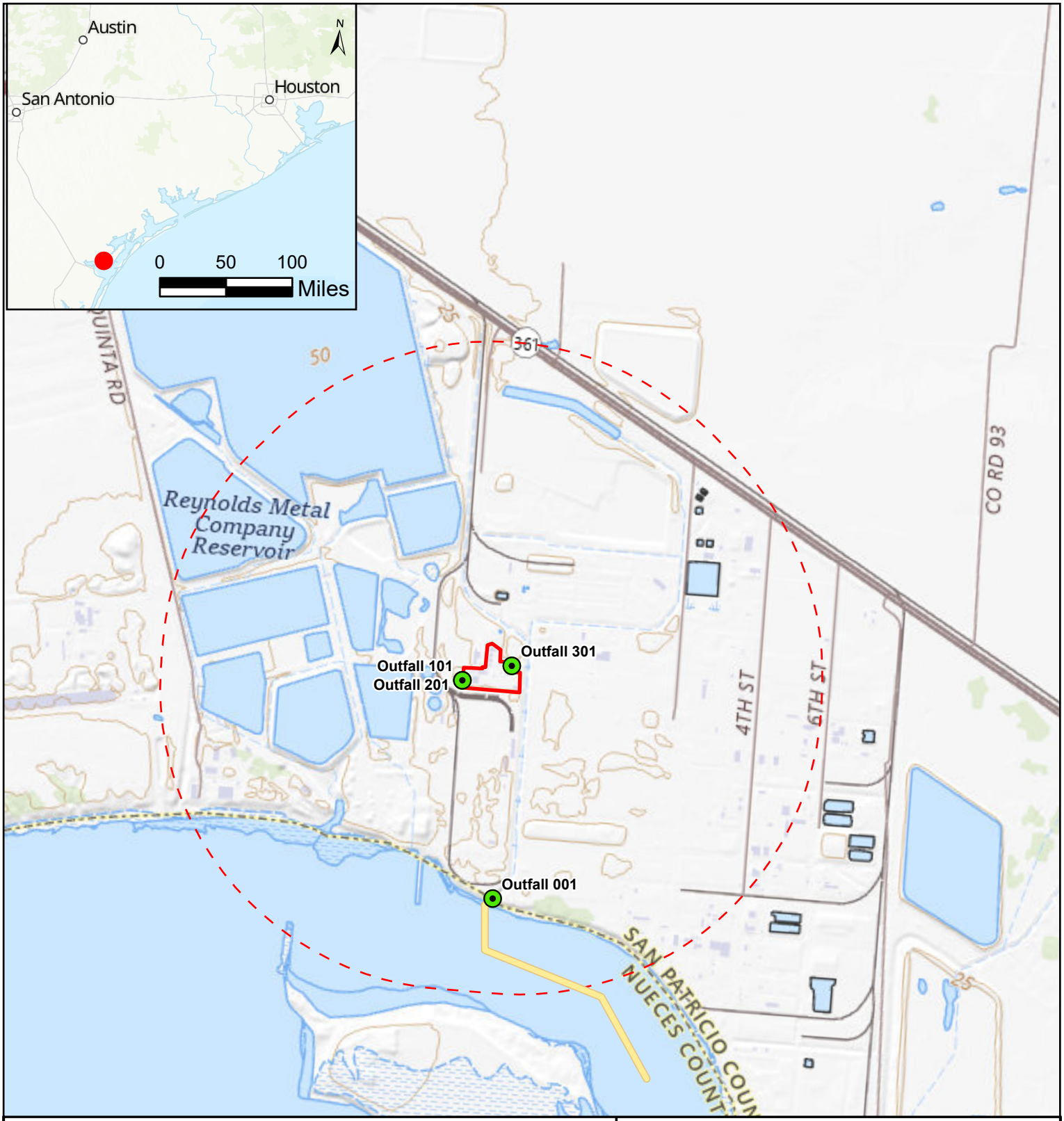
THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

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

Click here to enter text.

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

Click here to enter text.



Legend

- Outfall
- Discharge Route
- One-mile Buffer
- Applicant Property and Facility Boundary

0 800 1,600
Feet

N

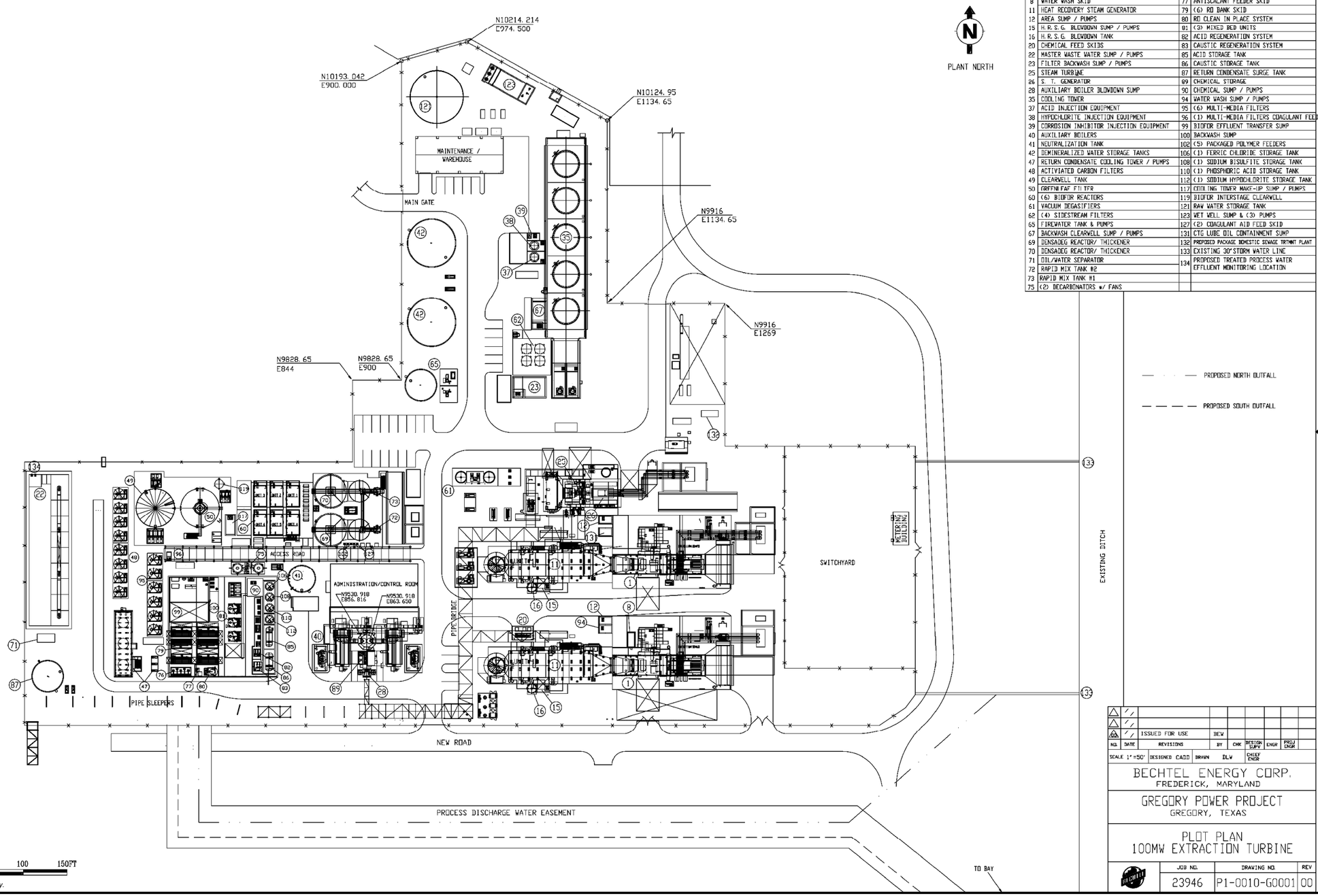
Source: Esri - USGS Topoographic Map; Updated 2025 WGS 1984 Web Mercator Auxiliary Sphere

SPIF Figure 1
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

	DATE	PROJECT NO
WESTON SOLUTIONS	Jul 2025	14847.027.002.0001

ATTACHMENT F

FACILITY MAP



LEGEND			
1	GAS TURBINE	76	RO PREFILTERS
8	WATER WASH SKID	77	ANTISCALANT FEEDER SKID
11	HEAT RECOVERY STEAM GENERATOR	79	(6) RO BANK SKID
12	AREA SUMP / PUMPS	80	RO CLEAN IN PLACE SYSTEM
15	H.R.S.G. BLOWDOWN SUMP / PUMPS	81	(3) MIXED BED UNITS
16	H.R.S.G. BLOWDOWN TANK	82	ACID REGENERATION SYSTEM
20	CHEMICAL FEED SKIDS	83	CAUSTIC REGENERATION SYSTEM
22	MASTER WASTE WATER SUMP / PUMPS	85	ACID STORAGE TANK
23	FILTER BACKWASH SUMP / PUMPS	86	CAUSTIC STORAGE TANK
25	STEAM TURBINE	87	RETURN CONDENSATE SURGE TANK
26	S. T. GENERATOR	89	CHEMICAL STORAGE
28	AUXILIARY BOILER BLOWDOWN SUMP	90	CHEMICAL SUMP / PUMPS
35	COOLING TOWER	94	WATER WASH SUMP / PUMPS
37	ACID INJECTION EQUIPMENT	95	(6) MULTI-MEDIA FILTERS
38	HYPOCHLORITE INJECTION EQUIPMENT	96	(1) MULTI-MEDIA FILTERS COAGULANT FEED
39	CORROSION INHIBITOR INJECTION EQUIPMENT	99	BIOFOR EFFLUENT TRANSFER SUMP
40	AUXILIARY BOILERS	100	BACKWASH SUMP
41	NEUTRALIZATION TANK	102	(5) PACKAGED POLYMER FEEDERS
42	DEMINERALIZED WATER STORAGE TANKS	106	(1) FERRIC CHLORIDE STORAGE TANK
47	RETURN CONDENSATE COOLING TOWER / PUMPS	108	(1) SODIUM BISULFITE STORAGE TANK
48	ACTIVIATED CARBON FILTERS	110	(1) PHOSPHORIC ACID STORAGE TANK
49	CLEARWELL TANK	112	(1) SODIUM HYPOCHLORITE STORAGE TANK
50	GREENLEAF FILTER	117	COOLING TOWER MAKE-UP SUMP / PUMPS
60	(6) BIOFOR REACTORS	119	BIOFOR INTERSTAGE CLEARWELL
61	VACUUM DEGASIFIERS	121	RAW WATER STORAGE TANK
62	(4) SIDESTREAM FILTERS	123	WET WELL SUMP & (3) PUMPS
65	FIREWATER TANK & PUMPS	127	(2) COAGULANT AID FEED SKID
67	BACKWASH CLEARWELL SUMP / PUMPS	131	CTG LUBE OIL CONTAINMENT SUMP
69	DENSADEG REACTOR/ THICKENER	132	PROPOSED PACKAGE DOMESTIC SEWAGE TRTMNT PLANT
70	DENSADEG REACTOR/ THICKENER	133	EXISTING 30"STORM WATER LINE
71	OIL/WATER SEPARATOR	134	PROPOSED TREATED PROCESS WATER EFFLUENT MONITORING LOCATION
72	RAPID MIX TANK #2		
73	RAPID MIX TANK #1		
75	(2) DECARBONATORS w/ FANS		

NO.	DATE	REVISIONS	BY	CHK	DESIGN SUPV	ENGR	PROJ ENGR
00		ISSUED FOR USE	BEW				

SCALE 1"=50' | DESIGNED CADD | DRAWN DLW | CHIEF ENGR

BECHTEL ENERGY CORP.
FREDERICK, MARYLAND

GREGORY POWER PROJECT
GREGORY, TEXAS

PLOT PLAN
100MW EXTRACTION TURBINE

JOB NO.	DRAWING NO.	REV
23946	P1-0010-G0001	00

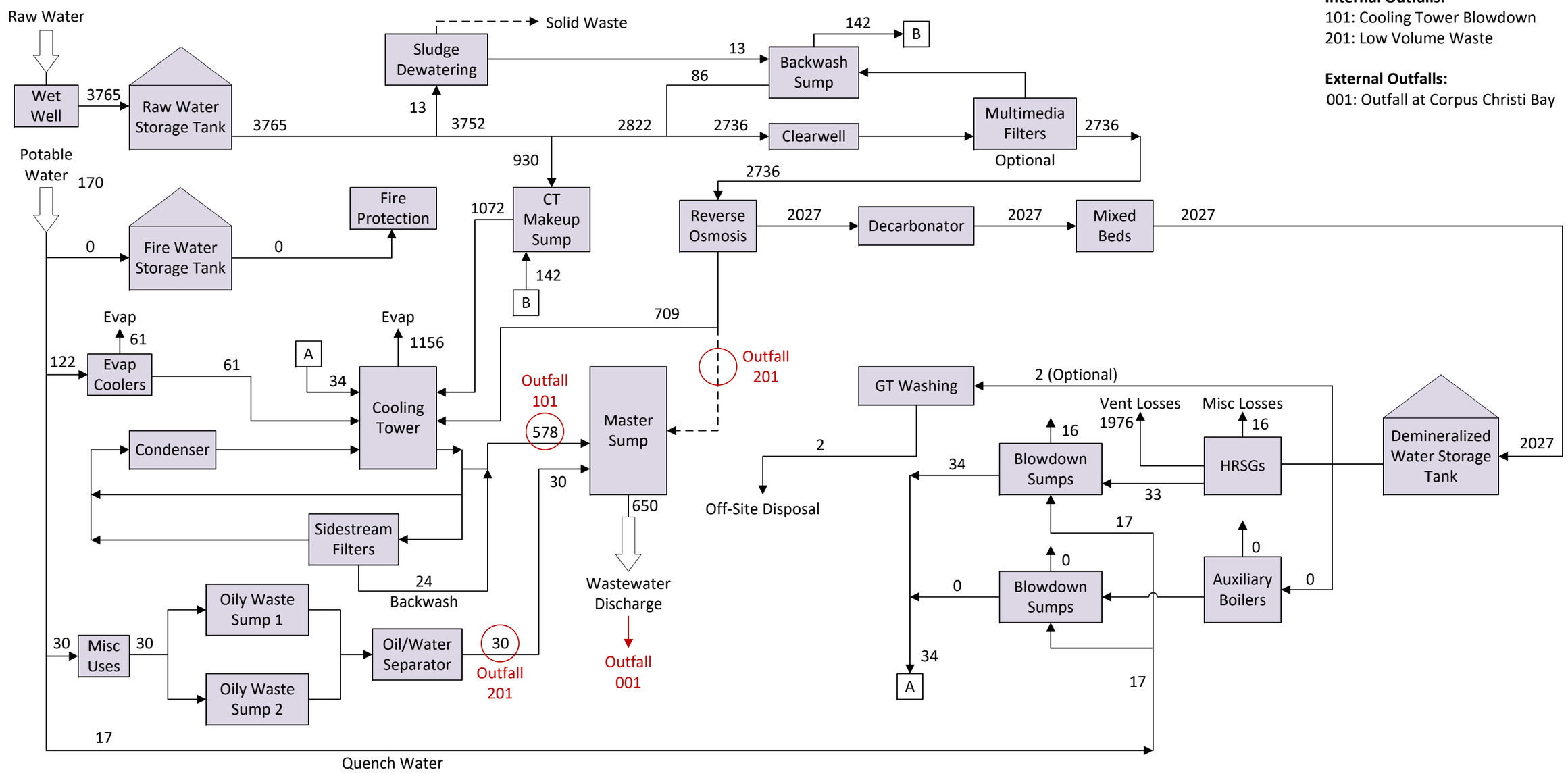
This information is for environmental review purposes only.

Attachment F
Gregory Power Partners LLC
San Patricio County, TX
Facility Map

M:\Clients\G-I\GPP_ArcGIS\2016\12\Project_Overview_GPP_Gregory_Station_Wastewater_System.mxd | REVISED: 12/07/2016 | SCALE: 1:4,334,074,480 when printed at 11x17 DRAWN BY: JPB

ATTACHMENT G

FLOW DIAGRAM



Attachment G
Gregory Power Partners LLC
San Patricio County, TX
Flow Schematic and Water Balance

ATTACHMENT H

COOLING TOWER AND BOILER CHEMICALS

Attachment H
Summary of Cooling Tower and Boiler Chemical Additives
Gregory Power Plant

Manufacturer	Manufacturers Product Identification/ Number	Product Use	Chemical Composition	Corresponding CAS Number	Toxicity			Toxicity for whole product?	Persistent/ Non-perisistent/ Bioaccumulative	Product or active ingredient half life			Concentration of product in blowdown	Frequency of product use
					Species and Test	LC50 and NOEL	Result			time	pH	Temp		
Veolia	Steamate PAP7000	Steam condensate treatment	Amine Corboxylates (N/A)	TSRN 125438-12065	Daphnia magna, 48Hr Daphnia magna, 48Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr	LC50 NOEL LC50 LC50 NOEL NOEL	6.2 mg/L 5 mg/L 7.1 mg/L 14.1 mg/L 5 mg/L 10 mg/L	Yes	N/A	N/A	N/A	N/A	27.6 ppm	Twice a week
Veolia	Steamate NA1324	Steam condensate treatment	Ammonia solution (20-40%) Ethanolamine (2.5-10%)	1336-21-6 141-43-5	Daphnia magna, 48Hr Mysid Shrimp, 96Hr Daphnia magna, 48Hr Mysid Shrimp, 96Hr Fathead Minnow, 96Hr Sheepshead Minnow, 96Hr Fathead Minnow, 96Hr Sheepshead Minnow, 96Hr	LC50 LC50 NOEL NOEL LC50 LC50 NOEL NOEL	46.49 mg/L 137.5 mg/L 6.25 mg/L 100 mg/L 53.59 mg/L 141.4 mg/L 25 mg/L 100 mg/L	Yes	N/A	N/A	N/A	N/A	34.8 ppm	Twice a week
Suez	Optisperse HP3100	Internal boiler treatment	Sodium hydroxide (2.5-10%)	1310-73-2	Fathead Minnow, 96Hr Fathead Minnow, 96Hr Daphnia magna, 48Hr Daphnia magna, 48Hr	LC50 NOEL LC50 NOEL	5020 mg/L 2750 mg/L 3300 mg/L 1250 mg/L	Yes	N/A	N/A	N/A	N/A	9.6 ppm	Twice a week
PCI Nitrogen	Sulfuric Acid - 93-98%	pH Control	Sulfuric Acid (93-98%) Water (2-7%)	7664-93-9 7732-18-5	Brschydanio rerio, 96hr Daphnia magna, 24hr	LC50 EC50	500 mg/L 29 mg/L	Sulfuric Acid	Biodegradable, not Bioaccumulative	N/A	N/A	N/A	90 mg/L	Daily, during operation
Brenntag	L A Chemchlor Sodium Hypochlorite 12.5	Cooling tower bio control	Hypochlorous acid, sodium salt (15%) Sodium hydroxide (1.5%)	7681-52-9 1310-73-2	Chinook salmon, 96Hr Water flea, 48Hr Western mosquitofish, 96Hr	LC50 EC50 LC50	0.038 mg/L 34.59 mg/L 125 mg/L	Hypochlorous acid Sodium hydroxide Sodium hydroxide	N/A	N/A	N/A	N/A	0.15 mg/L	Daily, during operation
Suez	Depositrol BL6501	Deposit control agent	Phosphonic acid (10-20%)	2809-21-4	Ceriodaphnia, 96hr Ceriodaphnia, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr	LC50 NOEL LC50 LC50 NOEL NOEL	1414 mg/L 1000 mg/L 5984 mg/L 6562 mg/L 4000 mg/L 4000 mg/L	Yes	N/A	N/A	N/A	N/A	27.0 ppm	Twice a week
Suez	Gengard GN8004	Dispersant	No hazardous ingredients	N/A	Ceriodaphnia, 48Hr Daphnia magna, 48Hr Ceriodaphnia, 48Hr Daphnia magna, 48Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr	LC50 LC50 NOEL NOEL LC50 LC50 NOEL NOEL	1707.6 mg/L 3677 mg/L 1250 mg/L 2500 mg/L 2367 mg/L 1894 mg/L 1250 mg/L 1250 mg/L	Yes	N/A	N/A	N/A	N/A	37.8 ppm	Twice a week
Suez	Foamtrol AF1440	Antifoam	Disitllates(petroluem), hydrotreated middle (60-80%) Fatty acids ethoxylate (2.5-10%) Fatty acids, C16-18 (2.5-10%)	64742-46-7 61791-00-2 67701-03-5	Daphnia magna, 48Hr Daphnia magna, 48Hr Rainbow Trout, 96hr Rainbow Trout, 96hr	LC50 NOEL LC50 NOEL	720 mg/L 250 mg/L 353 mg/L 250 mg/L	Yes	N/A	N/A	N/A	N/A	3.6 ppm	Twice a week
Suez	Biomate MBC2881	Biocide	2,2-dibromo-3-nitrilopropionamide (20-40%)	10222-01-2	Daphnia magna, 48Hr Mysid Shrimp, 48hr Daphnia magna, 48Hr Bluegill Sunfish, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr Sheepshead Minnow, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr	LC50 LC50 NOEL LC50 LC50 LC50 LC50 NOEL NOEL	3.3 mg/L 0.72 mg/L 2.15 mg/L 6.5 mg/L 8.7 mg/L 2.3 mg/L 7 mg/L 3.1 mg/L 1.8 mg/L	Yes	Readily Biodegradable	N/A	N/A	N/A	25.1 ppm	Daily, during operation
Suez	Hypersperse MDC714	Membrane Deposit Control Agent	No hazardous ingredients	N/A	Daphnia magna, 48Hr Daphnia magna, 48Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr	LC50 NOEL LC50 LC50 NOEL NOEL	1366 mg/L 1000 mg/L 5098 mg/L 5464 mg/L 2000 mg/L 4000 mg/L	Yes	Not Bioaccumulative	N/A	N/A	N/A	46.3 ppm	Twice a week
Veolia	Betzdearborn DCL30	Dechlorination Agent	Sodium bisulfite (20-40%)	7631-90-5	Daphnia magna, 48Hr Mysid Shrimp, 48hr Daphnia magna, 48Hr Mysid Shrimp, 48hr Fathead Minnow, 96hr Menida beryllina, 96hr Fathead Minnow, 96hr Menida beryllina, 96hr	LC50 LC50 NOEL NOEL LC50 LC50 NOEL NOEL	225 mg/L 370 mg/L 160 mg/L 156 mg/L 225 mg/L 930 mg/L 160 mg/L 156 mg/L	Yes	N/A	N/A	N/A	N/A	31.8 ppm	Daily, during operation
Suez	Spectrus NX1100	Biocide	2-Bromo-2-nitropropane-1,3-diol (Bronopol) (2.5-10%) Magnesium nitrate (2.5-10%) Mixture, see SDS (2.5-10%) Magnesium chloride (1-2.5%)	52-51-7 10377-60-3 55965-84-9 7786-30-3	Ceriodaphnia, 48hr Fathead Minnow, 96hr Menida beryllina, 96hr Mysid Shrimp, 48hr Sheepshead Minnow, 96hr Daphnia magna, 48Hr Rainbow Trout, 96Hr Ceriodaphnia, 48hr Fathead Minnow, 96hr Menida beryllina, 96hr Mysid Shrimp, 48hr Sheepshead Minnow, 96hr Daphnia magna, 48Hr Rainbow Trout, 96Hr	LC50 LC50 LC50 LC50 LC50 LC50 LC50 NOEL NOEL NOEL NOEL NOEL NOEL NOEL	4.7 mg/L 3.5 mg/L 15.9 mg/L 40.5 mg/L 26.7 mg/L 5 mg/L 7.2 mg/L 0.63 mg/L 1.8 mg/L 12.5 mg/L 18 mg/L 15.5 mg/L 2.5 mg/L 3.1 mg/L	Yes	Non-Persistent	N/A	N/A	N/A	25.1 ppm	Daily, during operation

N/A - Not available

VEOLIA

SAFETY DATA SHEET
STEAMATE* PAP7000

1. Identification

Product identifier **STEAMATE PAP7000**

Other means of identification None.

Recommended use Steam condensate treatment.

Recommended restrictions None known.

Company/undertaking identification

Veolia WTS USA, Inc.
3600 Horizon Blvd.
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. 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. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash 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

Components	CAS #	Percent
Amine Carboxylates	TSRN 125438 - 12065	

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

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information If 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. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up 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. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection	Splash proof chemical goggles.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Odorless
Odor threshold	Not available.
pH (concentrated product)	8.32 Neat
Melting point/freezing point	32 °F (0 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	Not Applicable
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	14.4 mPa.s
Viscosity temperature	77 °F (25 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	7.91 (5% Solution)
Pour point	37 °F (3 °C)
VOC	0 % ESTIMATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials. None under normal conditions.
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	Causes skin irritation.
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.

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	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Crustacea	LC50	Daphnia magna	6.2 mg/L, 48 H
	NOEL	Daphnia magna	5 mg/L, 48 H
Fish	LC50	Fathead Minnow	7.1 mg/L, 96 H
		Rainbow Trout	14.1 mg/L, 96 H
	NOEL	Fathead Minnow	5 mg/L, 96 H
		Rainbow Trout	10 mg/L, 96 H

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

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

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

Inventory status

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

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

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Mar-16-2020
Revision date	Feb-21-2023
Version #	1.1
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
NFPA ratings	

List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists BOD: Biochemical Oxygen Demand CAS: Chemical Abstract Service Registration Number COD: Chemical Oxygen Demand DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code LC50: Lethal Concentration, 50% LD50: Lethal Dose, 50% NOEL: No Observed Effect Level OSHA: Occupational Safety & Health Administration. STEL: Short Term Exposure Limit TOC: Total Organic Carbon TWA: Time Weighted Average 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	Exposure controls/personal protection: Respiratory protection Other information, including date of preparation or last revision: Prepared by
Prepared by	This SDS has been prepared by Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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VEOLIA

SAFETY DATA SHEET
STEAMATE* NA1324

1. Identification

Product identifier	**STEAMATE NA1324**
Other means of identification	None.
Recommended use	Steam condensate treatment.
Recommended restrictions	Industrial use only.

Company/undertaking identification

Veolia WTS USA, Inc.
3600 Horizon Blvd.
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	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	Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Do not eat, drink or smoke when using this product.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a poison center/doctor. Specific treatment (see this label).
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Ammonia solution	1336-21-6	20 - 40
Ethanolamine	141-43-5	2.5 - 10

Contains a maximum of 19% ammonia as NH3.

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. If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

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 warm. Keep victim under observation. Symptoms may be delayed.

General information If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. 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 Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Following product recovery, 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 discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling

Do not taste or swallow. Avoid prolonged exposure. Do not mix with acidic material. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Use care in handling/storage. Do not get in eyes, on skin, or on clothing. Corrosive to skin or eyes.

Conditions for safe storage, including any incompatibilities

Store locked up. Do not freeze. If frozen, thaw completely and mix thoroughly prior to use. Store in accordance with local/regional/national/international regulation. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store away from acids.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
Ammonia solution (CAS 1336-21-6)	PEL	35 mg/m3
		50 ppm
Ethanolamine (CAS 141-43-5)	PEL	6 mg/m3
		3 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ammonia solution (CAS 1336-21-6)	STEL	35 ppm
	TWA	25 ppm
Ethanolamine (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ammonia solution (CAS 1336-21-6)	STEL	27 mg/m3
		35 ppm
	TWA	18 mg/m3
		25 ppm
Ethanolamine (CAS 141-43-5)	STEL	15 mg/m3
		6 ppm
	TWA	8 mg/m3
		3 ppm

Biological limit values

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

Appropriate engineering controls

Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

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

Skin protection

Hand protection

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

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

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

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Strong ammonia
Odor threshold	Not available.
pH (concentrated product)	13
Melting point/freezing point	-24 °F (-31 °C)
Initial boiling point and boiling range	160 °F (71 °C)
Flash point	> 212 °F (> 100 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	240 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	0.94
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	4 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	11.4 (5% SOL.)
Pour point	-19 °F (-28 °C)
VOC	4 % (Calculated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids.
Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire. Ammonia evolved in fire. Volatile amines.

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.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Components	Species	Test Results
Ammonia solution (CAS 1336-21-6)		
Acute		
Oral		
LD50	Rat	350 mg/kg
Ethanolamine (CAS 141-43-5)		
Acute		
Dermal		
LD50	Rabbit	1025 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 1.5 mg/l, 4 Hour
Oral		
LD50	Rat	1720 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Crustacea	LC50	Daphnia magna	46.49 mg/L, 48 H
		Mysid Shrimp	137.5 mg/L, 96 H (pH adjusted)
	NOEL	Daphnia magna	6.25 mg/L, 48 H
		Mysid Shrimp	100 mg/L, 96 H (pH adjusted)
Fish	LC50	Fathead Minnow	53.59 mg/L, 96 H
		Sheepshead Minnow	141.4 mg/L, 96 H (pH adjusted)
	NOEL	Fathead Minnow	25 mg/L, 96 H
		Sheepshead Minnow	100 mg/L, 96 H (pH adjusted)

Persistence and degradability

- **COD (mgO2/g)** 62 (calculated data)
- **BOD 5 (mgO2/g)** 28 (calculated data)
- **BOD 28 (mgO2/g)** 27 (calculated data)
- **TOC (mg C/g)** 17 (calculated data)

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
Ethanolamine -1.31

Bioconcentration factor (BCF)
Ethanolamine 3

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

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

14. Transport information

DOT

UN number UN2672
UN proper shipping name Ammonia solutions, RQ
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
ERG number 154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number UN2672
UN proper shipping name AMMONIA SOLUTION

Transport hazard class(es)

Class	8
Subsidiary risk	-

Packing group III
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN2672
UN proper shipping name AMMONIA SOLUTION, RQ(Ammonium Hydroxide), MARINE POLLUTANT
Transport hazard class(es)

Class	8
Subsidiary risk	-

Packing group III
Environmental hazards

Marine pollutant	Yes

EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

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

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonia solution (CAS 1336-21-6) Listed.

SARA 304 Emergency release notification

Ammonia; Ammonia (anhydrous) (CAS 1336-21-6) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Ammonia solution	1336-21-6	100	500		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

ARSENIC (CAS 7440-38-2)
Diethanolamine (CAS 111-42-2)
LEAD (CAS 7439-92-1)
MERCURY (CAS 7439-97-6)

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

Ammonia solution (CAS 1336-21-6)

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

Inventory status

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

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

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

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

Ammonia solution (CAS 1336-21-6)

California Proposition 65

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

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

ARSENIC (CAS 7440-38-2) Listed: February 27, 1987
Diethanolamine (CAS 111-42-2) Listed: June 22, 2012
LEAD (CAS 7439-92-1) Listed: October 1, 1992

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

LEAD (CAS 7439-92-1) Listed: February 27, 1987
MERCURY (CAS 7439-97-6) Listed: July 1, 1990

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

LEAD (CAS 7439-92-1) Listed: February 27, 1987

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

LEAD (CAS 7439-92-1) Listed: February 27, 1987

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

Issue date	Oct-15-2014
Revision date	Apr-24-2023
Version #	6.2
NFPA ratings	Health: 3 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code NFPA: National Fire Protection Association ACGIH: American Conference of Governmental Industrial Hygienists DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. OSHA: Occupational Safety & Health Administration. 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 Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
OPTISPERSE* HP3100

1. Identification

Product identifier **OPTISPERSE HP3100**

Other means of identification None.

Recommended use Water based internal boiler treatment chemical.

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.

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

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

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium hydroxide	1310-73-2	2.5 - 10

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. 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 Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media Water fog. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up Ventilate the area. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Flush with plenty of water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Do not breathe mist or vapor. 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. Use care in handling/storage. Do not mix with acidic material.

Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container. Store in accordance with local/regional/national/international regulation. Avoid freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

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

Appropriate engineering controls
Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation 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
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Suitable gloves can be recommended by the glove supplier. Glove selection must take into account any solvents and other hazards present.

Other
Wear appropriate chemical resistant clothing.

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

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance

Color
Colorless to light yellow

Physical state
Liquid

Odor
Odorless

Odor threshold
Not available.

pH (concentrated product)
> 13 Neat

pH in aqueous solution
12.4 (2.5% Solution)

Melting point/freezing point
21 °F (-6 °C)

Initial boiling point and boiling range
210 °F (99 °C)

Flash point
Not applicable.

Evaporation rate
Slower than Ether

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.11
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	12 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	26 °F (-3 °C)
Specific gravity	1.113
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. None under normal conditions. Protect from freezing.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon, nitrogen, phosphorus, and sulphur 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. Inhalation of vapors/mists/aerosols may cause eye, nose, throat and lung irritation.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract.
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. May cause respiratory irritation. Symptoms on skin may develop from redness and itching with development to burns due to corrosion. Symptoms on eyes may develop from tearing with development into severe irritation and/or burns due to corrosion. Permanent eye damage including blindness could result. Symptoms on ingestion may develop from discomfort with development into severe irritation and/or burns due to corrosion.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.

Product	Species	Test Results
OPTISPERSE HP3100 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin burns.

Serious eye damage/eye irritation Causes severe eye burns.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
OPTISPERSE HP3100 (CAS Mixture)			
	LC50	Fathead Minnow	5020 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead Minnow	2750 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
Aquatic			
Crustacea	LC50	Daphnia magna	3300 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	1250 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)

Persistence and degradability	Not available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	Not available.
Persistence and degradability	
- COD (mgO2/g)	No information available.

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations. Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water. The waste generator is responsible to determine the hazard information and physicochemical properties of the material/product generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. 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	Avoid discharge into water courses or onto the ground. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Depending on the origin and state of the waste, other EWC numbers may be applicable too.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.
ERG number	154

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

IATA

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	154
Special precautions for user	Not available.

IMDG

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.

EmS F-A, S-B

Special precautions for user Not available.

DOT

IATA; IMDG

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

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

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

Food and drug administration

ALL ingredients in this product are authorized in 21CFR173.310 for use as boiler water additives where the steam may contact food.
The components of the product are considered GRAS for animal feed (FDA 21 CFR 582.1763, 582.6760).

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 146608
Category Code(s):
G5 Cooling and retort water treatment products
G6 Boiler treatment products, steam line products – food contact

US state regulations

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Sep-26-2014

Revision date Jan-25-2019

Version # 6.0

NFPA ratings

Health: 3
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
EC-No: European Commission Number
CLP: Regulation on classification, labeling and packaging of substances and mixtures
DSD: Dangerous Substances Directive
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
RID: International Rule for Transport of Dangerous Substances by Railway
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	Composition / Information on Ingredients: Disclosure Overrides Handling and storage: Conditions for safe storage, including any incompatibilities Physical and chemical properties: Appearance Physical and chemical properties: Odor Stability and reactivity: Conditions to avoid Transport Information: Material Transportation Information Regulatory information: California Prop 65
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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SAFETY DATA SHEET

Sulfuric Acid – 93-98%

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

Product Name:	Sulfuric Acid 93-98 Percent
Product Code:	SA93/98
Formula:	H_2SO_4
Synonyms:	Oil of Vitriol
Product Use:	Inorganic Acid. For industrial use only.
Manufacturer:	PCI Nitrogen, LLC 2001 Jackson Rd Pasadena, TX 77506 713-920-5300 www.pcicorp.net
Emergency Phone #s:	CHEMTREC 1-800-424-9300 (within US)

2. HAZARDS IDENTIFICATION

Hazards:	Skin Corrosion, 1A, H314 Eye Damage, 1, H318 Carcinogen, 1A, H350

Label Elements

Hazard Symbol:	
Signal Word:	Danger
Hazard Statement:	H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage. H350 - May cause cancer (Inhalation).
Precautionary Statements	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe fumes, mist, vapors, spray. P264 - Wash hands and forearms thoroughly after handling. P280 - Wear eye protection, face protection, protective gloves, protective clothing. P301, P330, P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303, P361, P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

	P304, P340 - IF INHALED: Remove 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. P308, P313 - If exposed or concerned: Get medical advice/ attention. P310 - Immediately call a POISON CENTER or doctor. P321 - Specific treatment (see Section 4). P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.
Hazard(s) Not Otherwise Classified:	Not applicable
Supplemental Information:	Not applicable

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredients	% (w/w)	CAS Number	Hazards
Sulfuric Acid	93-98	7664-93-9	Skin Corrosion, 1A, H314 Eye Damage, 1, H318 Carcinogen, 1A, H350
Water	7-2	7732-18-5	Not classified

4. FIRST AID MEASURES

General:	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).
Inhalation:	Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice.
Eye Contact:	Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Skin Contact:	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Rinse mouth.

Most Important Symptoms and Effects, both acute and delayed	
General:	Corrosive. Causes burns.
Inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include: burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.
Eye Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Skin Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Highly corrosive to skin.
Ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms:	Prolonged and frequent exposure through inhalation may cause cancer.

5. FIRE FIGHTING MEASURES

Conditions of Flammability:	Not flammable but reacts exothermically with incompatibles, releasing heat and increasing risk of fire or explosion.
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire. Do not get water inside containers. Do not apply water stream directly at source of leak. A direct water stream will cause violent splattering and generation of heat.
Fire Fighting Procedures:	Exercise caution when fighting any chemical fire. Do not get water inside containers. Do not apply water stream directly at source of leak. Do not enter the fire area without proper protective equipment, including respiratory protection. Do not allow run-off from fire fighting to enter drains or water courses.
Fire & Explosion Hazards:	Risk of fire and explosion on contact with combustible substances or reducing agents. Reacts exothermically with (some) bases. Violent exothermic reaction with water: release of corrosive gases/vapors.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment And Emergency Procedures

General:	Do not get in eyes, on skin, or on clothing. Do not breathe vapor or mist.

For Non- Emergency Personnel:	Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection. Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel.
For Emergency Responders:	Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection. Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.
Environmental Precautions:	Do not allow to enter drains or water courses. Avoid release to the environment.

Methods And Materials For Containment And Clean Up

For Containment:	Liquid spill: neutralize with powdered limestone or sodium bicarbonate. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not absorb with combustible material such as: saw dust or cellulosic material.
Methods for Cleaning Up:	Ventilate area. Collect absorbed material and place into a sealed, labelled container for proper disposal.

7. HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.
Storage:	Store in original container or corrosive resistant and/or lined container. May be stored in stainless steel containers. Store in an area having corrosion resistant concrete floor. Store in a dry, cool and well-ventilated place. Store away from other materials. Incompatible with: reducing agents, organic materials, alkalis, moisture.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational Exposure Limits – Sulfuric Acid (7664-93-9)

Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA IDLH	US IDLH (mg/m³)	15 mg/m³
Alberta	OEL STEL (mg/m³)	3 mg/m³
Alberta	OEL TWA (mg/m³)	1 mg/m³

British Columbia	OEL TWA (mg/m³)	0.2 mg/m³ (Thoracic, contained in strong inorganic acid mists)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³
New Brunswick	OEL STEL (mg/m³)	3 mg/m³
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³
Nunavut	OEL STEL (mg/m³)	3 mg/m³
Nunavut	OEL TWA (mg/m³)	1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	3 mg/m³
Northwest Territories	OEL TWA (mg/m³)	1 mg/m³
Ontario	OEL TWA (mg/m³)	0.2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³
Québec	VECD (mg/m³)	3 mg/m³
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³
Yukon	OEL STEL (mg/m³)	1 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Engineering Controls:	Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protection Equipment

Hand Protection:	Wear chemically resistant protective gloves.
Eye / Face Protection:	A full face shield is recommended. Chemical goggles or safety glasses.
Skin Protection:	Chemical resistant suit. Rubber apron, boots.
Respiratory Protection:	Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Thermal Hazard Protection:	If material is hot, wear thermally resistant protective gloves.
General Hygiene Considerations:	When using, do not eat, drink or smoke.

9. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Clear
Odor:	Pungent, irritating
Odor Threshold:	Not available
pH:	< 1
Evaporation Rate (Butyl Acetate=1):	Not available
Melting/Freezing Point:	- 1 °C (30 °F)
Boiling Point:	327 °C (621 °F)
Flash Point:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Flammability (solid, gas):	Not available
Lower Flammable Limit:	Not available
Upper Flammable Limit:	Not available
Vapor Pressure:	0.002 mm Hg at 40 °C (104 °F)
Relative Vapor Density at 20°C:	3.4 (air = 1)
Relative Density:	1.84 at 15.55°C (60 °F) (water = 1)
Density:	15.35 lb/gal at 15.55˚C (60˚F)
Solubility:	Miscible
Log Pow:	Not available
Log know:	Not available
Viscosity, Kinematic:	Not available
Viscosity, Dynamic:	26.7 cP at 20 °C (68 °F)
Explosion Data – Sensitivity to Mechanical Impact:	Not available
Explosion Data – Sensitivity to Static Discharge:	Not available

10. STABILITY AND REACTIVITY

Reactivity:	Reacts exothermically with (some) bases. Violent exothermic reaction with water (moisture): release of corrosive gases/vapors.
Stability:	Stable at standard temperature and pressure.
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Protect from moisture. Water. Keep away from (strong) bases. Contact with metallic substances.
Incompatible Materials:	Reducing agents, water, combustible materials, bases, organic materials, metals.
Decomposition Products:	Under conditions of fire this material may produce sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	Not classified
LD50 and LC50 Data:	See below and Section 12
Skin Corrosion/ Irritation:	Causes severe skin burns and eye damage (pH: < 1)
Serious Eye Damage/ Irritation:	Causes serious eye damage (pH: < 1)
Respiratory or Skin Sensitization:	Not classified
Germ Cell Mutagenicity:	Not classified
Teratogenicity:	Not available
Carcinogenicity:	May cause cancer (Inhalation)
Specific Target Organ Toxicity (Repeated Exposure):	Not classified
Specific Target Organ Toxicity (Single Exposure):	Not classified
Reproductive Toxicity:	Not classified
Aspiration Hazard:	Not classified
Symptoms/ Injuries After Inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include: Burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.

Symptoms/ Injuries After Skin Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Highly corrosive to skin.
Symptoms/ Injuries After Eye Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/ Injuries After Ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms:	Prolonged and frequent exposure through inhalation may cause cancer.

Information on Toxicological Effects – Ingredients(s) – LD50 and LC50 Data

Sulfuric Acid (7664-93-9)

LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat (mg/l)	510 mg/m³ (Exposure time: 2 h)
ATE (oral)	2140 mg/kg body weight
ATE (dust, mist)	510 mg/l/4h
IARC Group	1 (inorganic acid mist)

12. ECOLOGICAL INFORMATION

Toxicity

Sulfuric Acid (7664-93-9)

LC50 Fish 1	500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	29 mg/l (Exposure time: 24 h - Species: Daphnia magna)

Persistence and Degradability

Sulfuric Acid 93-98 Percent

Persistence and Degradability	Product is biodegradable.

Bioaccumulative Potential

Sulfuric Acid 93-98 Percent

Bioaccumulative Potential	Not expected to bioaccumulate.

Sulfuric Acid (7664-93-9)

BCF fish 1	(no bioaccumulation)
Mobility in Soil:	Not available
Other Adverse Effects:	Not available

13. DISPOSAL CONSIDERATIONS

Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

14. TRANSPORT INFORMATION

DOT UN No.:	UN 1830
DOT Proper Shipping Name:	Sulfuric Acid
DOT Hazard Classes:	Class 8 – Corrosive
DOT Symbols:	None
DOT Packing Group:	II
DOT Special Provisions:	See 49 CFR 172.102
DOT Reportable Quantity (RQ):	1,000 lbs
USCG CHRIS Codes:	SFA

15. REGULATORY INFORMATION

Sulfuric Acid 93-98 Percent

SARA Section 311/312 Hazard Classes - Immediate (acute) health hazard Delayed (chronic) health hazard

US Federal Regulations

Sulfuric Acid (7664-93-9)

United States TSCA (Toxic Substances Control Act) inventory	Yes
EPCRA (SARA) § 313 Toxic Release Inventory (TRI)	Yes – Aerosol forms only
EPCRA (SARA) § 302 Extremely Hazardous Substance (EHS)	Yes
EPCRA (SARA) § 302 Threshold Planning Quantity (TPQ)	1,000 lb
EPCRA (SARA) § 302 EHS Reportable Quantity (RQ)	1,000 lb
CERCLA Reportable Quantity (RQ)	1,000 lb
CERCLA Hazardous Substance	Yes

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Sulfuric Acid (7664-93-9)

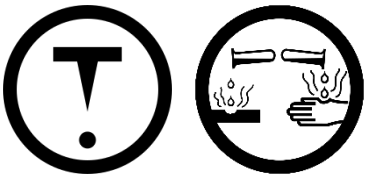
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List

U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Canadian Regulations

Sulfuric Acid 93-98 Percent

WHMIS Classification:	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects, Class E - Corrosive Material



Sulfuric Acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List) Inventory
Listed on the Canadian Ingredient Disclosure List

WHMIS Classification:	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects, Class E - Corrosive Material

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) Inventory

WHMIS Classification:	Uncontrolled product according to WHMIS classification criteria

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

16. OTHER INFORMATION

Prepared by:	Technical Staff at PCI Nitrogen, LLC. Telephone: 713-920-5300

The information contained in this Safety Data Sheet (SDS) relates only to the specific product(s) designated herein. The information and recommendations are based upon data believed to be current as of the date of this SDS and was obtained from sources believed to be accurate. However, this information is furnished without warranty, representations, or license of any kind, express or implied, with respect to accuracy, correctness, or completeness and neither PCI Nitrogen, LLC nor its marketing affiliates assume any legal responsibility for use or reliance upon same.

BRENNTAG

SAFETY DATA SHEET

1. Identification

Product identifier **L A CHEMCHLOR SODIUM HYPOCHLORITE 12.5**

Other means of identification None.

Recommended use ALL PROPER AND LEGAL PURPOSES

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Brenntag Pacific Inc.

Address 10747 Patterson Place
Santa Fe Springs, CA 90670

Telephone 562-903-9626

E-mail Not available.

Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, dermal	Category 4
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 Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash 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 100% of the mixture consists of component(s) of unknown acute oral toxicity. 98.5% 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	%
HYPOCHLOROUS ACID, SODIUM SALT (1:1)		7681-52-9	15

Chemical name	Common name and synonyms	CAS number	%
SODIUM HYDROXIDE (NA(OH))		1310-73-2	1.5
Other components below reportable levels			83.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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 warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Foam. 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 or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. When using, do not eat, drink or smoke. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	Ceiling	2 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
HYPOCHLOROUS ACID, SODIUM SALT (1:1) (CAS 7681-52-9)	STEL	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.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

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.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color CLEAR, LIGHT YELLOW-GREEN

Odor CHLORINE

Odor threshold Not available.

pH 12.5

Melting point/freezing point -15 °F (-26.11 °C)

Initial boiling point and boiling range 252.91 °F (122.73 °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	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	Not available.
Other information	
Density	10.00 lbs/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	83.5 % estimated
Specific gravity	1.2

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 acids.
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. Harmful in contact with skin.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Harmful in contact with skin.
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 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard 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.

Components		Species	Test Results
HYPOCHLOROUS ACID, SODIUM SALT (1:1) (CAS 7681-52-9)			
Aquatic			
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha)	0.038 - 0.065 mg/l, 96 hours
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)			
Aquatic			
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 this product.

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. 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 UN1791

UN proper shipping name HYPOCHLORITE SOLUTIONS

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ERG number	154

DOT information on packaging may be different from that listed.

IATA

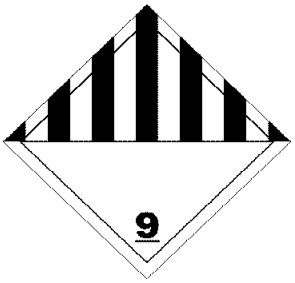
UN number	UN1791
UN proper shipping name	HYPOCHLORITE SOLUTIONS
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	154
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

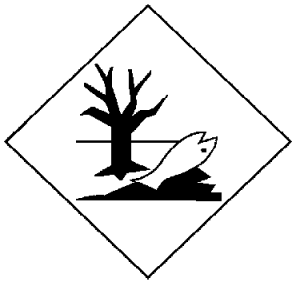
UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYPOCHLOROUS ACID, SODIUM SALT (1:1)), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT; IATA

IMDG



Marine pollutant



General information	IMDG Regulated Marine Pollutant.

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

HYPOCHLOROUS ACID, SODIUM SALT (1:1) (CAS 7681-52-9)	Listed.
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
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 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

SODIUM HYDROXIDE (NA(OH)) (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)	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 Toxic Chemical Substances (TCS)	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	05-23-2015
Revision date	03-23-2018
Version #	11
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 3 Flammability: 0 Instability: 1
Disclaimer	While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

SAFETY DATA SHEET
DEPOSITROL* BL6501

1. Identification

Product identifier **DEPOSITROL BL6501**

Other means of identification None.

Recommended use Deposit control agent

Recommended restrictions Industrial use only.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Serious eye damage/eye irritation Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes serious eye damage.

Precautionary statement

Prevention Wear eye protection/face protection.

Response Immediately call a POISON CENTER or doctor/physician. 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.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Phosphonic acid, (1-hydroxyethylidene)bis-	2809-21-4	10 - 20

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

4. First-aid measures

Inhalation	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	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. 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. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	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 get this material in contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. See Section 8 of the SDS for Personal Protective Equipment.
Conditions for safe storage, including any incompatibilities	Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Avoid exposure to the atmosphere. Avoid high temperatures. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide eyewash station. Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	1.2
Melting point/freezing point	25 °F (-4 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not available.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.18
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	14 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	2 (5% SOL.)
Pour point	30 °F (-1 °C)
Specific gravity	1.18
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with strong bases may cause a violent reaction releasing heat.
Incompatible materials	Avoid contact with strong bases. Avoid contact with strong oxidizers.
Hazardous decomposition products	Oxides of carbon, nitrogen, phosphorus, and sulphur evolved in fire.

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	Causes serious eye damage.
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. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
DEPOSITROL BL6501		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Phosphonic acid, (1-hydroxyethylidene)bis- (CAS 2809-21-4)		
Acute		
Dermal		
LD50	Rabbit	> 7940 mg/kg
Oral		
LD50	Rat	1878 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not classified.

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
DEPOSITROL BL6501			
Aquatic			
Crustacea	LC50	Ceriodaphnia	1414 mg/L, 96 hour (pH adjusted)
	NOEL	Ceriodaphnia	1000 mg/L, 96 hour (pH adjusted)
Fish	LC50	Fathead Minnow	5984 mg/L, 96 hour (pH adjusted)
		Rainbow Trout	6562 mg/L, 96 hour (pH adjusted)
	NOEL	Fathead Minnow	4000 mg/L, 96 hour (pH adjusted)
		Rainbow Trout	4000 mg/L, 96 hour (pH adjusted)

Persistence and degradability

- COD (mgO2/g)	342 (calculated data)
- BOD 5 (mgO2/g)	0 (calculated data)
- BOD 28 (mgO2/g)	17 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	5 (calculated data)
- TOC (mg C/g)	94 (calculated data)

Bioaccumulative potential

Mobility in soil	No data available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company. D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories 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

Acrylic acid (CAS 79-10-7)
Sodium chloride (CAS 7647-14-5)

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

Not regulated.

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

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 141933
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Dec-03-2014
Revision date Dec-22-2021
Version # 2.1

NFPA ratings	Health: 3 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	CAS: Chemical Abstract Service Registration Number ACGIH: American Conference of Governmental Industrial Hygienists TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code NFPA: National Fire Protection Association AICIS: Australian Inventory of Industrial Chemicals. DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. OSHA: Occupational Safety & Health Administration. WHMIS: Workplace Hazardous Materials Information System. TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
GENGARD* GN8004

1. Identification

Product identifier **GENGARD GN8004**

Other means of identification None.

Recommended use Dispersant

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification. The material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard's (29CFR 1910.1200) implementation of the Globally Harmonized System (GHS), i.e., material is not a dangerous substance or mixture requiring GHS classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments This product does not contain hazardous ingredients in reportable concentrations. Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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	Handle in accordance with good industrial hygiene and safety procedures. Avoid prolonged exposure.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Keep container tightly closed. Store in cool, well ventilated area. Store away from oxidizers. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Yellow to amber
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	5 Neat
pH in aqueous solution	5.9 (5% Solution)
Melting point/freezing point	25 °F (-4 °C)
Initial boiling point and boiling range	219 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.13
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	44 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	30 °F (-1 °C)
Specific gravity	1.134
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Prolonged or repeated contact may cause transient irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	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

Product	Species	Test Results
GENGARD GN8004 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	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
GENGARD GN8004 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Ceriodaphnia	1707.6 mg/L, Static Acute Bioassay, 48 hour
		Daphnia magna	3677 mg/L, Static Acute Bioassay, 48 hour
	LOEL	Ceriodaphnia	1000 mg/L, Chronic Bioassay, 7 day
	NOEL	Ceriodaphnia	1250 mg/L, Static Acute Bioassay, 48 hour
			500 mg/L, Chronic Bioassay, 7 day
		Daphnia magna	2500 mg/L, Static Acute Bioassay, 48 hour
Fish	LC50	Fathead Minnow	2367 mg/L, Static Acute Bioassay, 96 hour
		Rainbow Trout	1894 mg/L, Static Acute Bioassay, 96 hour
	LOEL	Fathead Minnow	2000 mg/L, Chronic Bioassay, 7 day
	NOEL	Fathead Minnow	1250 mg/L, Static Acute Bioassay, 96 hour
			1000 mg/L, Chronic Bioassay, 7 day
		Rainbow Trout	1250 mg/L, Static Acute Bioassay, 96 hour

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Nutrients: P : 1.449 mg/g, N : 2.62 mg/g (TKN)

Persistence and degradability

- **COD (mgO2/g)** 385 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 24 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 6 (calculated data)
- **TOC (mg C/g)** 109 (calculated data)

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Oct-27-2014

Revision date Dec-06-2019

Version # 5.0

NFPA ratings	Health: 0 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	OSHA: Occupational Safety & Health Administration. 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 NFPA: National Fire Protection Association
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
FOAMTROL* AF1440

1. Identification

Product identifier **FOAMTROL AF1440**

Other means of identification None.

Recommended use Antifoam

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

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

Precautionary statement

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

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

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

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

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

3. Composition/information on ingredients

Mixtures

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

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

4. First-aid measures

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

5. Fire-fighting measures

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

6. Accidental release measures

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

7. Handling and storage

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

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

8. Exposure controls/personal protection

Occupational exposure limits

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

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

US. ACGIH Threshold Limit Values

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

US. NIOSH: Pocket Guide to Chemical Hazards

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

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

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

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

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

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

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

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance Liquid

Physical state Liquid.

Form Liquid.

Color Amber

Odor Hydrocarbon

Odor threshold Not available.

pH (concentrated product) Not available.

Melting point/freezing point 18 °F (-8 °C)

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

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	May cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways.

Product	Species	Test Results
FOAMTROL AF1440		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 5 mg/l, 4 Hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	4.6 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Fatty acids, C16-18 (CAS 67701-03-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity Not classified.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	Known To Be Human Carcinogen.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

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

Persistence and degradability

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

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

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

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

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

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

Inventory status

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

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

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

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

US state regulations

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

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

California Proposition 65

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

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

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

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

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

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

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

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

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

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

Issue date Nov-14-2014

Revision date Mar-04-2022

Version # 4.0

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

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

References:

No data available

Disclaimer

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Revision information

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

Prepared by

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

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

SAFETY DATA SHEET
BIOMATE* MBC2881

1. Identification

Product identifier **BIOMATE MBC2881**

Other means of identification None.

Recommended use Biocide

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

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

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
2,2-dibromo-3-nitrilopropionamide	10222-01-2	20 - 40

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

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Carbon dioxide, dry chemicals, foam, water spray (fog).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Neutralize the spilled material before disposal. Neutralize with approximately 17.2 grams sodium bisulfite or 15.7 grams sodium metabisulfite for every 100 grams biocide product. Never return spills to original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Use care in handling/storage. Do not taste or swallow. Do not mix with alkaline material. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	USERS OF A PESTICIDE PRODUCT SHOULD REFER TO THE PRODUCT LABEL FOR PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS. Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult the product label for respirator use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Not available.
Color	Yellow to amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	1.9 Neat
Melting point/freezing point	-0.04 °F (-18 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Slower than Ether

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.1 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1
Relative density	1.27
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	64 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	3.3 (5% Solution)
Pour point	5 °F (-15 °C)
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	Carbon dioxide, bromine, cyanogen bromide, dibromoacetonitrile

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed. May cause an allergic skin reaction.

Product	Species	Test Results
BIOMATE MBC2881		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)

Product	Species	Test Results
Inhalation		
LC50	Rat	1.3 mg/l, 4 hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	510 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
2,2-dibromo-3-nitrilopropionamide (CAS 10222-01-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	0.32 mg/l, 4 Hour
Oral		
LD50	Rat	206 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Algae	ErC50	Algae	1.5 mg/L, 72 hours
Crustacea	EC50	Daphnia magna	0.65 mg/L, 21 days (Reproduction EC50)
	LC50	Daphnia magna	3.3 mg/L, 48 hours
			1.3 mg/L, 21 days
		Mysid Shrimp	0.72 mg/L, 48 hours (Data given as toxicity of active component.)
	LOEC	Daphnia magna	0.6 mg/L, 21 days (Reproduction LOEC)
	NOEL	Daphnia magna	2.15 mg/L, 48 hours
			0.35 mg/L, 21 days (Reproduction NOEL)

Product		Species	Test Results
Fish	LC50	Bluegill Sunfish	6.5 mg/L, 96 hours
		Fathead Minnow	8.7 mg/L, 96 hours
		Rainbow Trout	2.3 mg/L, 96 hours
		Sheepshead Minnow	7 mg/L, 96 hours
	NOEL	Fathead Minnow	3.1 mg/L, 96 hours
		Rainbow Trout	1.8 mg/L, 96 hours
Other	LC50	Marine Copepod (Acartia tonsa or other)	1.78 mg/L, 48 hours

Persistence and degradability

Readily biodegradable.
78 % degradation in 28 days
CO2 Evolution (Modified Sturm Test) (OECD 301B)
(Refers to active component: 2,2-dibromo-3-nitrilopropionamide)

Readily biodegradable.
78 % degradation in 28 days
CO2 Evolution (Modified Sturm Test) (OECD 301B)
(Refers to active component: 2,2-dibromo-3-nitrilopropionamide)

- **COD (mgO2/g)** 959
- **TOC (mg C/g)** 732
- **CO2 evolution (modified Sturm test)** 78

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
2,2-dibromo-3-nitrilopropionamide 0.79

Bioconcentration factor (BCF)
2,2-dibromo-3-nitrilopropionamide 13
Species: Fish

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of in approved pesticide facility or according to label instructions. Incinerate the material under controlled conditions in an approved incinerator.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

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

14. Transport information

DOT

- **UN number** UN3265
- **UN proper shipping name** Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** III
- **Special precautions for user** Not available.
- **ERG number** 153

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

IATA

- **UN number** UN3265

UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	153
Special precautions for user	Not available.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE)), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Not available.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number.

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Corrosive to metal Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)	Hazardous substance
Safe Drinking Water Act (SDWA)	Contains component(s) regulated under the Safe Drinking Water Act.

Inventory status

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

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

FIFRA registration number	3876-95
TSCA	This is an EPA registered biocide and is exempt from TSCA inventory requirements.
Food and drug administration	The ingredients in this product are approved by FDA under 21 CFR 176.300.

Other federal regulations

Hazard statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
Corrosive
Causes irreversible eye damage
Harmful if inhaled, swallowed, or absorbed through the skin
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals
This pesticide is toxic to fish and aquatic organisms

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Oct-17-2014
Revision date	Jun-15-2022
Version #	4.0
NFPA ratings	Health: 3 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% EC50: Effect Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
HYPERSPERSE* MDC714

1. Identification

Product identifier	**HYPERSPERSE MDC714**
Other means of identification	None.
Recommended use	Membrane Deposit Control Agent
Recommended restrictions	None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

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

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Colorless to yellow
Physical state	Liquid
Odor	Slight
Odor threshold	Not available.
Melting point/freezing point	-8 °F (-22 °C)
Initial boiling point and boiling range	216 °F (102 °C)
Flash point	Not applicable.
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.42
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	100 mPa.s
Viscosity temperature	77 °F (25 °C)
Other information	
Pour point	-3 °F (-19 °C)
Specific gravity	1.419
VOC	0 % ESTIMATED
pH (concentrated product)	7.6 Neat
pH in aqueous solution	7.9 (5% Solution)

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	Oxides of carbon, nitrogen and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	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

Product	Species	Test Results
HYPERSPERSE MDC714 (CAS Mixture)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
HYPERSPERSE MDC714 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	1366 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	1000 mg/L, Static Renewal Bioassay, 48 hour
Fish	LC50	Fathead Minnow	5098 mg/L, Static Renewal Bioassay, 96 hour
		Rainbow Trout	5464 mg/L, Static Renewal Bioassay, 96 hour
	NOEL	Fathead Minnow	2000 mg/L, Static Renewal Bioassay, 96 hour
		Rainbow Trout	4000 mg/L, Static Renewal Bioassay, 96 hour

Bioaccumulative potential Not bioaccumulating

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

Not inherently biodegradable.

- **COD (mgO2/g)** 180 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 0 (calculated data)
- **TOC (mg C/g)** 38,5

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines): Certified to: NSF/ANSI 60
Maximum concentration is 10mg/L - NSF requirement

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Oct-08-2014

Revision date Nov-09-2020

Version # 1.3

NFPA ratings Health: 0
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations	CAS: Chemical Abstract Service Registration Number ACGIH: American Conference of Governmental Industrial Hygienists NOEL: No Observed Effect Level STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% TWA: Time Weighted Average BOD: Biochemical Oxygen Demand COD: Chemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

VEOLIA

SAFETY DATA SHEET
BETZDEARBORN* DCL30

1. Identification

Product identifier **BETZDEARBORN DCL30**

Other means of identification None.

Recommended use Dechlorination agent

Recommended restrictions None known.

Company/undertaking identification

Veolia WTS USA, Inc.
3600 Horizon Blvd.
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Causes eye irritation. May cause respiratory irritation.

Precautionary statement

Prevention Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.

Response Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. 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.

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

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

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium bisulphite	7631-90-5	20 - 40

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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. If eye irritation persists: Get medical advice/attention.

Ingestion Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information If 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. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Never return spills to original containers for re-use.

Environmental precautions Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling Vent carefully before opening. Sulfur dioxide can be formed during the normal use and handling of this product. Avoid breathing mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities Store locked up. Avoid freezing. If frozen, thaw completely and mix thoroughly prior to use. Keep container tightly closed.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	5 mg/m3

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

Appropriate engineering controls Provide adequate ventilation. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

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

Other Wear appropriate chemical resistant clothing.

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

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance Liquid

Physical state Liquid.

Form Not available.

Color Colorless to light yellow

Odor Strong odor

Odor threshold Not available.

pH (concentrated product) 4.5 Neat

Melting point/freezing point 39 °F (4 °C)

Initial boiling point and boiling range 219 °F (104 °C)

Flash point Not Applicable

Evaporation rate Slower than Ether

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 18 mmHg

Vapor pressure temp. 70 °F (21 °C)

Vapor density < 1

Relative density 1.27

Relative density temperature 70 °F (21 °C)

Solubility(ies)

Solubility (water) 100 %

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 6 mPa.s

Viscosity temperature 70 °F (21 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	4.9 (5% Solution)
Pour point	45 °F (7 °C)
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. None under normal conditions.
Incompatible materials	Strong 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	No adverse effects due to skin contact are expected.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
BETZDEARBORN DCL30		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 5 mg/l, 4 hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 4000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium bisulphite (CAS 7631-90-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 5.5 mg/l, 4 Hour
Oral		
LD50	Rat	1420 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes eye 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 classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium bisulphite (CAS 7631-90-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

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
Aquatic			
Algae	EC50	Scenedesmus (algae)	154 mg/l, 72 hour (Estimated)
Crustacea	LC50	Daphnia magna	225 mg/l, 48 hour
		Mysid Shrimp	370 mg/l, 48 hour (pH adjusted)
	NOEL	Daphnia magna	160 mg/l, 48 hour
		Mysid Shrimp	156 mg/l, 48 hour (pH adjusted)
Fish	0% Mortality	Rainbow Trout	100 mg/l, 48 hour
	100% Mortality	Rainbow Trout	500 mg/l, 48 hour
	LC50	Fathead Minnow	225 mg/l, 96 hour
		Menidia beryllina (Silversides)	930 mg/l, 96 hour (pH adjusted)
	NOEL	Fathead Minnow	160 mg/l, 96 hour
		Menidia beryllina (Silversides)	156 mg/l, 96 hour (pH adjusted)

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

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

- COD (mgO2/g) 47,7

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (SODIUM BISULFITE), RQ(SODIUM BISULFITE)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Special precautions for user	Not available.
ERG number	171

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

DOT

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 bisulphite (CAS 7631-90-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

sulphur dioxide (CAS 7446-09-5)

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

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 147820
Category Code(s):
G5 Cooling and retort water treatment products
G6 Boiler treatment products, steam line products – food contact

US state regulations

California Proposition 65

WARNING: California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

sulphur dioxide (CAS 7446-09-5) Listed: July 29, 2011

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Oct-16-2014

Revision date Feb-11-2023

Version # 3.1

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
ACGIH: American Conference of Governmental Industrial Hygienists
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
NFPA: National Fire Protection Association

References: No data available

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

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Prepared by	This SDS has been prepared by Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
SPECTRUS* NX1100

1. Identification

Product identifier **SPECTRUS NX1100**

Other means of identification None.

Recommended use Biocide

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	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. Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Wear eye/face protection. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Wash hands thoroughly after handling. Keep only in original container. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage	Store 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
2-Bromo-2-nitropropane-1,3-diol (Bronopol)	52-51-7	2.5 - 10
Magnesium nitrate	10377-60-3	2.5 - 10
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	2.5 - 10
Magnesium chloride	7786-30-3	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. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Do not induce vomiting. Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. The dilution with water or milk is appropriate if there has been no vomiting (120 to 240 ml for adults, do not exceed 120 ml for children). If swallowed, assess endoscopy results. Contraindication: neutralization and activated Carbon. Symptomatic treatment.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In case of fire and/or explosion do not breathe fumes. Cool containers / tanks with water spray.
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 or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Prevent from entering sewers or the immediate environment.

7. Handling and storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Corrosive liquid. Do not breathe vapors or spray mist.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Keep container tightly closed in a dry and well-ventilated place. Store at temperatures below 35°C Use approved containers only. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Biological limit values

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

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

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

Skin protection

Hand protection

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

Other

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

Respiratory protection

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

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Color

Colorless to yellow green

Physical state

Liquid

Odor

None

Odor threshold

Not available.

pH (concentrated product)	3
pH in aqueous solution	3.7 (5% SOL.)
Melting point/freezing point	24 °F (-4 °C)
Initial boiling point and boiling range	220 °F (104 °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	1.11
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	10 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	29 °F (-2 °C)
Specific gravity	1.107
VOC	0 %

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hydrogen bromide, bromine gas, hydrogen chloride, chlorine gas, oxides of carbon and nitrogen evolved in fire. Sulfur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Harmful if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.

Product	Species	Test Results
SPECTRUS NX1100 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 1 mg/l, 4 Hour
Oral		
LD50	Rat	1030 mg/kg

Components	Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)		
Acute		
Dermal		
LD50	Rat	1600 mg/kg
Inhalation		
LC50	Rat	> 0.59 mg/l, 4 Hour, (Aerosol toxicity)
Oral		
LD50	Rat	324 mg/kg
Magnesium chloride (CAS 7786-30-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Magnesium nitrate (CAS 10377-60-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5400 mg/kg
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (CAS 55965-84-9)		
Acute		
Dermal		
LD50	Rabbit	90 mg/kg
Inhalation		
LC50	Rat	0.33 mg/l, 4 Hour
Oral		
LD50	Rat	67 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin burns.

Serious eye damage/eye irritation Corrosive to eyes. Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
SPECTRUS NX1100 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Ceriodaphnia	4.7 mg/l, Static Renewal Bioassay, 48 hour
		Daphnia magna	5 mg/l, Static Renewal Bioassay, 48 hour
		Mysid Shrimp	40.5 mg/l, Static Renewal Bioassay, 48 hour
	NOEL	Ceriodaphnia	0.63 mg/l, Static Renewal Bioassay, 48 hour
		Daphnia magna	2.5 mg/l, Static Renewal Bioassay, 48 hour
		Mysid Shrimp	18 mg/l, Static Renewal Bioassay, 48 hour
Fish	LC50	Fathead Minnow	3.5 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	15.9 mg/l, Static Renewal Bioassay, 96 hour
		Rainbow Trout	7.2 mg/l, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	26.7 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Fathead Minnow	1.8 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	12.5 mg/l, Static Renewal Bioassay, 96 hour
		Rainbow Trout	3.1 mg/l, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	15.5 mg/l, Static Renewal Bioassay, 96 hour

Components		Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)			
	EC50	Daphnia Magna	1.4 mg/l, 48 hour
Aquatic			
Fish	LC50	Rainbow Trout	41 mg/l, 96 hour

Bioaccumulative potential Not bioaccumulating (Refers to active component) 2-Bromo-2-nitropropane-1,3-diol

Partition coefficient n-octanol / water (log Kow)

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	0.49

Mobility in soil No data available.

Other adverse effects	Nutrients: N = 8.03 mg/g
Persistence and degradability	
- COD (mgO2/g)	77
- BOD 5 (mgO2/g)	2 (calculated data)
- BOD 28 (mgO2/g)	4 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	2 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days)	8 (calculated data)
- TOC (mg C/g)	29 (calculated data)

13. Disposal considerations

Disposal instructions	Dispose of in approved pesticide facility or according to label instructions. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator.
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. D002= Corrosive
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Dispose of in approved pesticide facility or according to label instructions. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (2-BROMO-2-NITROPROPANE-1,3-DIOL, 5-Chloro-2-Methyl-4-Isothiazolin-3-One Mixture With 2-Methyl-4-Isothiazolin-3-One)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.
ERG number	153

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

IATA

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes
Special precautions for user	Not available.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	Not available.
Special precautions for user	Not available.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations

This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number. This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Magnesium nitrate	10377-60-3	2.5 - 10

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)

Sulphuric acid (CAS 7664-93-9)

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)	Hazardous substance
Safe Drinking Water Act (SDWA)	Not regulated.

Inventory status

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

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

FIFRA registration number	3876-151
TSCA	This is an EPA registered biocide and is exempt from TSCA inventory requirements.
FIFRA hazard statement	This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: DANGER Corrosive Causes irreversible eye damage Causes skin burns Harmful if swallowed or absorbed through the skin Harmful if inhaled Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals This pesticide is toxic to fish and aquatic organisms
Food and drug administration	21 CFR 176.300 & 176.170 (slimicides and as a preservative)
NSF Registered and/or meets USDA (according to 1998 guidelines):	Registration No. – 141064 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

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

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

Sulphuric acid (CAS 7664-93-9) Listed: March 14, 2003

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Jul-03-2014
Revision date	Aug-02-2019
Version #	1.1
NFPA ratings	Health: 3 Flammability: 0 Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References:

CNS 15030
UN Transportation Regulations Safety data sheets of raw materials.

Disclaimer

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

Revision information

Hazard(s) identification: Prevention
Hazard(s) identification: Response
Physical & Chemical Properties: Multiple Properties
GHS: Classification

Prepared by

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

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

ATTACHMENT I

LABORATORY SUMMARY

ATTACHMENT I

ANALYTICAL TESTING LABORATORY INFORMATION

Laboratory Name	ALS Houston	
Address	10450 Stancliff Rd, Suite 210, Houston, TX 77099	
Phone Number	281-530-5656	
Email	Andrew.Neir@ALSGlobal.com	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25	
Pollutants Analyzed	Table 1: • BOD (5-Day) • CBOD (5-Day) • Chemical oxygen demand • Total organic carbon • Ammonia nitrogen • Total suspended solids • Nitrate nitrogen • Total organic nitrogen • Total phosphorus • Oil and grease • Total residual chlorine • Total dissolved solids • Sulfate • Fluoride • Total alkalinity (mg/L as CaCo3)	Table 2: • Aluminum • Antimony • Arsenic • Barium • Beryllium • Cadmium • Chromium, total • Chromium, trivalent • Copper • Lead • Nickel • Selenium • Silver • Thallium • Zinc Table 6: • Bromide • Color • Nitrate-Nitrite • Sulfide • Sulfite • Surfactants • Boron • Cobalt • Iron • Magnesium • Manganese • Molybdenum • Tin • Titanium

Laboratory Name	ALS Houston	
Address	10450 Stancliff Rd, Suite 210, Houston, TX 77099	
Phone Number	281-530-5656	
Email	Andrew.Neir@ALSGlobal.com	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25	
Pollutants Analyzed	Table 8: • Acrolein • Acrylonitrile • Benzene • Bromoform • Carbon tetrachloride • Chlorobenzene • Chlorodibromomethane • Chloroethane • 2-Chloroethylvinyl ether • Chloroform • Dichlorobromomethane [Bromodichloromethane] • 1,1-Dichloroethane • 1,2-Dichloroethane • 1,1-Dichloroethylene [1,1-Dichloroethene] • 1,2-Dichloropropane • 1,3-Dichloropropylene [1,2-Dichloropropene] • Ethylbenzene • Methyl bromide [Bromomethane] • Methyl chloride [Chloromethane] • Methylene chloride [Dichloromethane] • 1,1,2,2-Tetrachloroethane • Tetrachloroethylene [Tetrachloroethene] • Toluene • 1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene] • 1,1,1-Trichlorethane • 1,1,2-Trichlorethane • Trichloroethylene [Trichloroethene] • Vinyl chloride	Table 9: • 2-Chlorophenol • 2,4-Dichlorophenol • 2,4-Dimethylphenol • 4,6-Dinitro-o-cresol • 2,4-Dinitrophenol • 2-Nitrophenol • 4-Nitrophenol • p-Chloro-m-cresol • Pentachlorophenol • Phenol • 2,4,6-Trichlorophenol

Laboratory Name	ALS Holland
Address	3352 128th Ave, Holland, Michigan, 49424
Phone Number	616-399-6070
Email	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25
Pollutants Analyzed	Table 2: • Mercury

Laboratory Name	Eurofins Lancaster Laboratory
Address	2425 New Holland Pike, Lancaster, PA 17601
Phone Number	717-556-7219
Email	Dana.Kauffman@et.eurofins.com
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25
Pollutants Analyzed	Table 2: • Cyanide, available

Laboratory Name	Pace Analytical
Address	12065 Lebanon Rd, Mount Juliet, Tennessee 37122
Phone Number	615-758-5858
Email	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25
Pollutants Analyzed	Table 2: • Chromium, hexavalent

Field Parameters by Applicant

- Total residual chlorine
- Temperature (°F)
- pH
- Dissolved Oxygen

ATTACHMENT J

LEASE AGREEMENT

AMENDED AND RESTATED SITE LEASE

LANDLORD:

CHENIERE LAND HOLDINGS, LLC,
a Delaware Limited Liability Company

TENANT:

GREGORY POWER PARTNERS LLC,
a Delaware Limited Liability Company

December 29, 2023

DocuSign Envelope ID: BF9F926E-1D91-441C-811A-EC3476A355EC

IN WITNESS WHEREOF, Landlord and Tenant have caused this Lease to be executed the date first above written.

Tenant:

GREGORY POWER PARTNERS LLC,
a Delaware limited liability company

By: GREGORY POWER HOLDINGS LLC,
as sole member of GREGORY POWER PARTNERS LLC

By: Carlton Ellis
Name: Carlton Ellis
Title: Senior Vice President, Corporate Development and Strategy

Landlord:

CHENIERE LAND HOLDINGS, LLC,
a Delaware limited liability company

By: Carlton Ellis
Name: Carlton Ellis
Title: Senior Vice President, Corporate Development and Strategy

EXHIBIT A

Premises

[Attached hereto]

Legal Description of Main Premises

METES AND BOUNDS
DESCRIPTION OF A
10.828 ACRE TRACT

BEING a 10.828 acre tract out of that 1665.222 acre tract conveyed to Reynolds Metals Company March 21, 1951 and recorded in Volume 169, Page 48 of the Deed Records of San Patricio County, Texas said 10.828 acre tract being more particularly described as follows;

COMMENCING at a found concrete monument in the south right-of-way line of State Highway 361, said monument being south 115.98 feet from the northeast corner of the aforesaid 1665.222 acre tract;

THENCE, S 44°20'20" W 5,293.68 feet to the POINT OF BEGINNING, said point being the northwest corner of this 10.828 acre tract of land;

THENCE, with the perimeter of this 10.828 acre leasehold site,

S 89°55'50" E	374.00 feet to a point,
N 00°00'26" W	68.95 feet to a point,
N 89°59'34" E	56.00 feet to a point,
N 00°00'26" W	366.39 feet to a point,
N 74°07'42" E	77.45 feet to a point,
S 60°52'25" E	184.89 feet to a point,
S 00°00'26" E	18.20 feet to a point,
S 89°59'34" W	1.35 feet to a point,
S 00°00'26" E	192.00 feet to a point,
N 89°59'34" E	234.35 feet to a point,
S 00°00'26" E	156.00 feet to a point,
N 89°59'34"	126.00 feet to a point,
E S 00°00'26" E	278.33 feet to a point,
S 36°51'44"	33.33 feet to a point,
W S 56°18'10" W	36.06 feet to a point,
S 89°59'34" W	975.00 feet to a point,
N 00°00'26" W	325.20 feet to the POINT OF BEGINNING and containing 10.828 acres of land, more or less.

NOTE: ALL BEARINGS ARE BASED ON THE SOUTH RIGHT-OF-WAY LINE OF THE UNION PACIFIC RAILROAD BEARING S 59°34'00" E AS CALLED IN VOLUME 169, PAGE 48 OF THE DEED RECORDS OF SAN PATRICIO COUNTY, TEXAS.

Legal Description of Parking Lot

BEING A METES AND BOUNDS DESCRIPTION FOR A PARKING LOT, FOR A PLANT LOCATED IN THE THOMAS T. WILLIAMSON SURVEY, ABSTRACT NO. 290, SAN PATRICIO COUNTY, TEXAS, BEING A PORTION OF A CALLED 538.766 ACRE TRACT, CONVEYED TO CORPUS CHRISTI ALUMINA, LLC, RECORDED IN FILE NO. 664353, REAL PROPERTY RECORDS SAN PATRICIO COUNTY, TEXAS, SAID PARKING LOT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a calculated point within said 538.766 acre tract for the **POINT OF BEGINNING** of the metes and bounds described herein, from which a found 5/8" iron rod capped (RPLS 3589) bears N 30°04'55" E, a distance of 901.62 feet, marking a northeast corner of said 538.766 acre tract, said point also being an interior corner of a called 341.3 acre Tract No. 2, recorded in File No. 502130, Real Property Records San Patricio County, Texas.

THENCE, over and across said 538.766 acre tract, the following ten (10) courses and distances:

1) S 41°15'40" E, a distance of 198.76 feet to a calculated point,
2) S 00°32'32" E, a distance of 147.74 feet to a calculated point,
3) N 84°03'59" W, a distance of 23.33 feet to a calculated point,
4) N 50°20'06" W, a distance of 34.98 feet to a calculated point,
5) N 42°42'00" W, a distance of 55.54 feet to a calculated point,
6) N 42°34'59" W, a distance of 53.47 feet to a calculated point,
7) N 44°04'19" W, a distance of 54.78 feet to a calculated point,
8) N 47°32'10" W, a distance of 47.93 feet to a calculated point,
9) N 28°19'55" E, a distance of 14.69 feet to a calculated point,

THENCE, N 28°19'55" E, a distance of 122.21 feet to the **POINT OF BEGINNING** of herein described parking lot, containing 29,051 square feet or 0.67 acres, more or less.

Notes:

1) Bearings shown hereon are grid bearings of the Texas State Plane Coordinate System, South Zone (4205), NAD83, US Survey Feet. Distances shown hereon are grid.
2) Record information shown hereon has been provided by NRG. Owner name shown as provided. Record volume and page noted per vesting document provided.

04/22/19

S. Corey Shannon — Date
Registered Professional Land Surveyor
No. 5967 – State of Texas

Surveying and Mapping, LLC
11111 Katy Freeway, Suite 200
Houston, Texas 77079
TX. Firm Reg. No. 10064300

Candice Calhoun

From: Koch, Nancy <Nancy.Koch@WestonSolutions.com>
Sent: Monday, September 8, 2025 10:03 AM
To: Candice Calhoun
Cc: ray.dube@calpine.com; Jaron Bergin; Bethany Santillan; Blank, Nathan; John Swinney; Marcus Augustine
Subject: Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency Response
Attachments: _WQ0005219000 ANOD Response.pdf

Candice:
Attached please find our NOD Response for the above-referenced application. Please reach out to me if you need anything additional.
Regards,
Nancy

Nancy L. Koch, P.E
Senior Project Manager
(512) 651-7104 Nancy.Koch@WestonSolutions.com
5301 Southwest Parkway, Suite 450
Austin, TX 78735
Trust.Performance.People

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Wednesday, August 27, 2025 2:23 PM
To: Koch, Nancy <Nancy.Koch@WestonSolutions.com>
Cc: ray.dube@calpine.com
Subject: [EXT]:Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency
Importance: High

***** External Message *** -- PROBE message before clicking links or opening attachments.**

Good afternoon, Ms. Koch,

The Notice of Deficiency (NOD) letter dated August 27, 2025, requests additional information needed to declare the application administratively complete. Please send complete response no later than September 10, 2025.

Please let me know if you have any questions.

Regards,

Candice Courville
License & Permit Specialist
ARP Team | Water Quality Division
Texas Commission on Environmental Quality
512-239-4312
candice.calhoun@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

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Candice Calhoun

From: Blank, Nathan <Nathan.Blank@WestonSolutions.com>
Sent: Tuesday, September 9, 2025 11:04 AM
To: Candice Calhoun; Koch, Nancy
Cc: ray.dube@calpine.com; Jaron Bergin; Bethany Santillan; John Swinney; Marcus Augustine
Subject: RE: Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency Response
Attachments: WQ0005219000 CDF.pdf; WQ0005219000 Spanish NORI.docx; _WQ0005219000_9_9_2025.pdf

Good morning Candice,

Attached is the updated core data form and Spanish NORI language. We're also providing an electronic file of the full application with all the parts changed over the course of the ANOD updated. Let us know if you need anything else.

Thanks,

Nathan Blank

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Tuesday, September 9, 2025 9:39 AM
To: Koch, Nancy <Nancy.Koch@WestonSolutions.com>
Cc: ray.dube@calpine.com; Jaron Bergin <jaron.bergin@calpine.com>; Bethany Santillan <bethany.santillan@calpine.com>; Blank, Nathan <Nathan.Blank@WestonSolutions.com>; John Swinney <john.swinney@calpine.com>; Marcus Augustine <marcus.augustine@calpine.com>
Subject: RE: Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency Response

***** External Message *** -- PROBE message before clicking links or opening attachments.**

Thank you, Nancy. 😊

Regards,

Candice Courville
License & Permit Specialist
ARP Team | Water Quality Division
Texas Commission on Environmental Quality
512-239-4312
candice.calhoun@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

Candice Calhoun

From: Koch, Nancy <Nancy.Koch@WestonSolutions.com>
Sent: Wednesday, September 10, 2025 9:03 AM
To: Candice Calhoun; Blank, Nathan
Cc: Bethany Santillan
Subject: RE: Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency Response

Candice –
Bethany provided the photograph below. In the area, that intersection is clearly marked.
N

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Wednesday, September 10, 2025 8:50 AM
To: Blank, Nathan <Nathan.Blank@WestonSolutions.com>; Koch, Nancy <Nancy.Koch@WestonSolutions.com>
Cc: ray.dube@calpine.com; Jaron Bergin <jaron.bergin@calpine.com>; Bethany Santillan <bethany.santillan@calpine.com>; John Swinney <john.swinney@calpine.com>; Marcus Augustine <marcus.augustine@calpine.com>

Subject: RE: Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency Response

***** External Message *** -- PROBE message before clicking links or opening attachments.**

Good morning, Nathan,

Thank you for providing this information. The location description in the CDF states 1 mile southwest of the intersection of State Highway 361 and Chemours Plant Road, however, I am not seeing a "Chemours Plant Road". Can you please provide clarification on this.

Regards,

Candice Courville
License & Permit Specialist
ARP Team | Water Quality Division
Texas Commission on Environmental Quality
512-239-4312
candice.calhoun@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

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Sent: Tuesday, September 9, 2025 11:04 AM
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Cc: ray.dube@calpine.com; Jaron Bergin <jaron.bergin@calpine.com>; Bethany Santillan <bethany.santillan@calpine.com>; John Swinney <john.swinney@calpine.com>; Marcus Augustine <marcus.augustine@calpine.com>
Subject: RE: Application to Renew Permit No. WQ0005219000 (Gregory Power Partners LLC) - Notice of Deficiency Response

Good morning Candice,

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Nathan Blank

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Tuesday, September 9, 2025 9:39 AM
To: Koch, Nancy <Nancy.Koch@WestonSolutions.com>
Cc: ray.dube@calpine.com; Jaron Bergin <jaron.bergin@calpine.com>; Bethany Santillan <bethany.santillan@calpine.com>; Blank, Nathan <Nathan.Blank@WestonSolutions.com>; John Swinney

Weston Solutions, Inc.
5301 Southwest Parkway, Suite 450
Austin, TX 78735
512-651-7100
WestonSolutions.com

8 September 2025

Candice Calhoun
Application Review and Processing Team (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

Via: candice.calhoun@tceq.texas.gov

Re: Response to Administrative Notice of Deficiency WQ0005129000
Gregory Power Partners, LLC (CN604378208)
Gregory Power Plant (RN102547957)

Dear Ms. Calhoun:

Weston Solutions, Inc. (WESTON®) is pleased to submit this response to the Administrative Notice of Deficiency (ANOD) dated 27 August 2025 for the Texas Pollutant Discharge Elimination System (TPDES) permit application that was submitted on 22 August 2025. WESTON's response to the numbered comments/deficiencies on an item-by-item basis is provided below:

1. **Outdated Administrative Form 10411.** We have completed the most current version of the Administrative Form; it is included in **Attachment A**.

2. **Item 1.f of the Administrative Report.** Item 1.f has been completed; it is included in **Attachment A**.

3. **Item 6.b of the Administrative Report.** Item 6.b. has been updated and is included in **Attachment A**.

4. **Core Data Form, Section III, Item 23.** The address provided was not a 911 address. A location description has been added to the Core Data Form (page 2, included in **Attachment B)** and in the comments to the Notice of Receipt of Application and Intent to Obtain Permit (NORI) language, included in **Attachment D**.

5. **USGS Topographic Map.** The USGS Topographic Map has been updated to show the applicant facility boundary as well as the applicant property boundary; this updated map is provided in **Attachment C**.

6. **Portion of the NORI.** We have reviewed the NORI language provided; comments are provided in **Attachment D**.

7. **Spanish Translation of the NORI**. We have provided a pdf of the translation of the updated NORI text as **Attachment E**. The Microsoft™ Word file is also attached to the same email which includes this transmittal letter.

Should you have any questions regarding this submittal, please contact me at nancy.koch@westonsolutions.com or at (512) 651-7104.

Very truly yours,
Weston Solutions, Inc.

N. L. Koch

Nancy L. Koch, P.E.
Project Manager

List of Attachments:
Attachment A – Administrative Form 10411
Attachment B – Core Data Form
Attachment C – USGS Topographic Map
Attachment D – English NORI Comments
Attachment E – Spanish NORI

cc: Jaron Bergin, Calpine

ATTACHMENT A

ADMINISTRATIVE FORM 10411

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the industrial wastewater permit application.

APPLICANT NAME: Gregory Power Partners, LLC

PERMIT NUMBER (If new, leave blank): WQ00 05219000

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Worksheet 8.0	☐	☒
Administrative Report 1.1	☐	☒	Worksheet 9.0	☐	☒
SPIF	☒	☐ E	Worksheet 10.0	☐	☒
Core Data Form	☒	☐ B	Worksheet 11.0	☐	☒
Summary of Application (PLS)	☒	☐ C	Worksheet 11.1	☐	☒
Public Involvement Plan Form	☐	☒	Worksheet 11.2	☐	☒
Technical Report 1.0	☒	☐	Worksheet 11.3	☐	☒
Worksheet 1.0	☒	☐	Original USGS Map	☒	☐ D
Worksheet 2.0	☒	☐	Affected Landowners Map	☐	☒
Worksheet 3.0	☐	☒	Landowner Disk or Labels	☐	☒
Worksheet 3.1	☐	☒	Flow Diagram	☒	☐ G
Worksheet 3.2	☐	☒	Site Drawing	☒	☐ F
Worksheet 3.3	☐	☒	Original Photographs	☐	☒
Worksheet 4.0	☒	☐	Design Calculations	☐	☒
Worksheet 4.1	☐	☒	Solids Management Plan	☐	☒
Worksheet 5.0	☐	☒	Water Balance	☐	☒
Worksheet 6.0	☐	☒			
Worksheet 7.0	☐	☒			

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs, except applications for oil and gas extraction operations subject to 40 CFR Part 435. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report.

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use Oil and Gas Exploration and Production Administrative Report (TCEQ Form-20893 and 20893-inst[1]).

Item 1. Application Information and Fees (Instructions, Page 26)

a. Complete each field with the requested information, if applicable.

Applicant Name: Gregory Power Partners, LLC

Permit No.: WQ0005219000

EPA ID No.: TX0137502

Expiration Date: February 18, 2026

b. Check the box next to the appropriate authorization type.

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

☐ Reverse Osmosis Water Treatment (reverse osmosis water treatment wastewaters only)

c. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

d. Check the box next to the appropriate permit type.

☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

e. Check the box next to the appropriate application type.

☐ New

☒ Renewal with changes ☐ Renewal without changes

☐ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: 1. We are requesting to remove internal Outfall 301, as domestic wastewater is transported off-site for disposal. 2. We are requesting that Other Requirement 3(f)(1) be amended to allow for multi-chlorination and continuous chlorination by adding the following language “Simultaneous multi-unit chlorination and continuous chlorination is permitted. The permittee shall dechlorinate continuously during the periods of continuous chlorination.” We request that the associated Other Requirement 3(f)(2) be deleted and Other Requirement 3(f)(3) be

[1] https://www.tceq.texas.gov/publications/search_forms.html

revised to indicate that the effluent is sufficiently dechlorinated when total residual chlorine concentrations are below 0.1 mg/L; during these periods of sufficient de-chlorination, a value of zero is to be used to calculate loading. Currently Gregory cannot operate at or below the level as provided in the current permit. Gregory has experienced reduced efficiency at the cooling tower and must run every fan; if one fan fails, the plant must be derated while the fan is repaired or replaced. Biological growth has been observed in the tower as well. Running low chlorine in the cooling tower can lead to a cascade of problems, including microbial growth, health risks, reduced efficiency, equipment damage, and increased operating costs. 3. For Outfall 201, we are requesting an increase in the daily average flow limit from 0.085 million gallons per day (MGD) to 1.1MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

g. Application Fee

EPA Classification	New	Major Amend. (with or without renewal)	Renewal (with or without changes)	Minor Amend. / Minor Mod. (without renewal)
Minor facility not subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $350	☐ $350	☐ $315	☐ $150
Minor facility subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $1,250	☐ $1,250	☒ $1,215	☐ $150
Major facility	N/A [2]	☐ $2,050	☐ $2,015	☐ $450

h. Payment Information

Mailed

Check or money order No.: Click to enter text.

Check or money order amt.: Click to enter text.

Named printed on check or money order: Click to enter text.

Epay

Voucher number: 780050, 780051

Copy of voucher attachment: A

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN604378208

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[3].

b. Legal name of the entity (applicant) applying for this permit: Gregory Power Partners, LLC

Note: The owner of the facility must apply for the permit. The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Mr. Full Name (Last/First Name): Swinney/John

Title: Plant Manager Credential: Click to enter text.

d. Will the applicant have overall financial responsibility for the facility?

☒ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

[2] All facilities are designated as minors until formally classified as a major by EPA.

[3] https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

Item 3. Co-applicant Information (Instructions, Page 27)

☒ Check this box if there is no co-applicant.; otherwise, complete the below questions.

a. Legal name of the entity (co-applicant) applying for this permit: Click to enter text.

Note: The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

b. Customer Number (if applicant is an existing customer): CNClick to enter text.

Note: Locate the customer number using the TCEQ's Central Registry Customer Search.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

d. Will the co-applicant have overall financial responsibility for the facility?

☐ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 4. Core Data Form (Instructions, Pages 27)

a. Complete and attach one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)). If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: B

Item 5. Application Contact Information (Instructions, Page 27)

Provide names of two individuals who can be contacted about this application. Indicate if the individual can be contacted about administrative or technical information, or both.

a. ☒ Administrative Contact ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Koch/Nancy

Title: Project Manager Credential: P.E.

Organization Name: Weston Solutions, Inc.

Mailing Address: 5301 Southwest Parkway, Suite 450 City/State/Zip: Austin, TX 78735

Phone No: 512-651-7104 Email: nancy.koch@westonsolutions.com

b. ☒ Administrative Contact ☒ Technical Contact

Prefix: Mr. Full Name (Last/First Name): Dube/Ray

Title: EHS Manager Credential: Click to enter text.

Organization Name: Calpine Corporation

Mailing Address: 717 Texas Avenue, Suite 1000 City/State/Zip: Houston, TX 77002

Phone No: 830-305-8429 Email: ray.dube@calpine.com

Attachment: Click to enter text.

Item 6. Permit Contact Information (Instructions, Page 28)

Provide two names of individuals that can be contacted throughout the permit term.

a. Prefix: Mr. Full Name (Last/First Name): Pate/Ty

Title: VP Central Region Operations Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: 717 Texas Avenue, Suite 1000 City/State/Zip: Houston, TX 77002

Phone No: 713-570-4823 Email: ty.pate@calpine.com

b. Prefix: Mr. Full Name (Last/First Name): Swinney/John

Title: Plant Manager Credential: Click to enter text.

Organization Name: Gregory Power Partners, LLC

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 281-615-1502 Email: john.swinney@calpine.com

Attachment: Click to enter text.

Item 7. Billing Contact Information (Instructions, Page 28)

The permittee is responsible for paying the annual fee. The annual fee will be assessed for permits **in effect on September 1 of each year**. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (form TCEQ-20029).

Provide the complete mailing address where the annual fee invoice should be mailed and the name and phone number of the permittee's representative responsible for payment of the invoice.

Prefix: Ms. Full Name (Last/First Name): Garza/Angela

Title: Business Manager Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 361-777-3062 Email: angela.garza@calpine.com

Item 8. DMR/MER Contact Information (Instructions, Page 28)

Provide the name and mailing address of the person delegated to receive and submit DMRs or MERs. **Note:** DMR data must be submitted through the NetDMR system. An electronic reporting account can be established once the facility has obtained the permit number.

Prefix: Ms. Full Name (Last/First Name): Santillan/Bethany

Title: EHS Specialist III Credential: Click to enter text.

Organization Name: Calpine Corporation

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 361-696-7707 Email: bethany.santillan@calpine.com

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms. Full Name (Last/First Name): Koch/Nancy

Title: Project Manager Credential: P.E.

Organization Name: Weston Solutions, Inc.

Mailing Address: 5301 Southwest Parkway, Suite 450 City/State/Zip: Austin, TX 78735

Phone No: 512-651-7104 Email: nancy.koch@westonsolutions.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package (only for NORI, NAPD will be sent via regular mail)

☒ E-mail: Nancy.Koch@westonsolutions.com

☐ Fax: Click to enter text.

☐ Regular Mail (USPS)

Mailing Address: Click to enter text.

City/State/Zip Code: Click to enter text.

c. Contact in the Notice

Prefix: Mr. Full Name (Last/First Name): Bergin/Jaron

Title: EHS Director Credential: Click to enter text.

Organization Name: Calpine Corporation

Phone No: 713-570-4631 Email: jaron.bergin@calpine.com

d. Public Viewing Location Information

Note: If the facility or outfall is located in more than one county, provide a public viewing place for each county.

Public building name: Bell Whitington Public Library Location within the building: Reference Desk

Physical Address of Building: 2400 Memorial Parkway

City: Portland County: San Patricio

e. Bilingual Notice Requirements

This information is required for new, major amendment, minor amendment or minor modification, and renewal applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is required.

1. 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 ☐ No

If no, publication of an alternative language notice is not required; skip to Item 8 (Regulated Entity and Permitted Site Information.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☒ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☒ Yes ☐ No

4. 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)?

   ☐ Yes ☒ No ☐ N/A

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

f. Summary of Application in Plain Language Template – Complete and attach the Summary of Application in Plain Language Template (TCEQ Form 20972), also known as the plain language summary or PLS. Attachment: C.

g. Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment. Attachment: Click to enter text.

Item 10. Regulated Entity and Permitted Site Information (Instructions Page 29)

a. TCEQ issued Regulated Entity Number (RN), if available: RN102547957

Note: If your business site is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.

b. Name of project or site (name known by the community where located): Gregory Power Facility

c. Is the location address of the facility in the existing permit the same?

☒ Yes ☐ No ☐ N/A (new permit)

Note: If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.

d. Owner of treatment facility:

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Gregory Power Partners, LLC

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 281-615-1502 Email: john.swinney@calpine.com

e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be: Click to enter text.

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Cheniere Land Holdings, LLC

Mailing Address: 700 Milam St, Suite 1900 City/State/Zip: Houston, TX 77002

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: Click to enter text.

g. Owner of effluent TLAP disposal site (if applicable): N/A

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

h. Owner of sewage sludge disposal site (if applicable):

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

Item 11. TDPES Discharge/TLAP Disposal Information (Instructions, Page 31)

a. Is the facility located on or does the treated effluent cross Native American Land?

☐ Yes ☒ No

b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.

☒ One-mile radius	☐ Three-miles downstream information
☒ Applicant's property boundaries	☐ Treatment facility boundaries
☒ Labeled point(s) of discharge	☒ Highlighted discharge route(s)
☐ Effluent disposal site boundaries	☐ All wastewater ponds
☐ Sewage sludge disposal site	☐ New and future construction

Attachment: D

c. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: N/A

d. Are the point(s) of discharge in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

e. Are the discharge route(s) in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): Gregory

g. County in which the outfalls(s) is/are located: San Patricio

h. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If yes, indicate by a check mark if: ☐ Authorization granted ☐ Authorization pending

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: Click to enter text.

i. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes No or New Permit ☐ Not Applicable, not a TLAP

If no, or a new application, provide an accurate location description: Click to enter text.

j. City nearest the disposal site: Not Applicable, not a TLAP

k. County in which the disposal site is located: Not Applicable

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: Click to enter text.

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: E

ATTACHMENT B

CORE DATA FORM

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(830) 305-8429		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Gregory Power Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**
24. County	San Patricio						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	From the intersection of State Highway (SH) 35 with SH 202 and SH 361, head 1.4 miles south on SH 361 S, thence right on Reynolds Plant Road, thence 0.75 miles to the "Y", thence right at the "Y" for 0.25 miles; the facility is on the left.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Gregory			TX	78374	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	27.878432		**28. Longitude (W) In Decimal:**	-97.257775	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911		22112	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

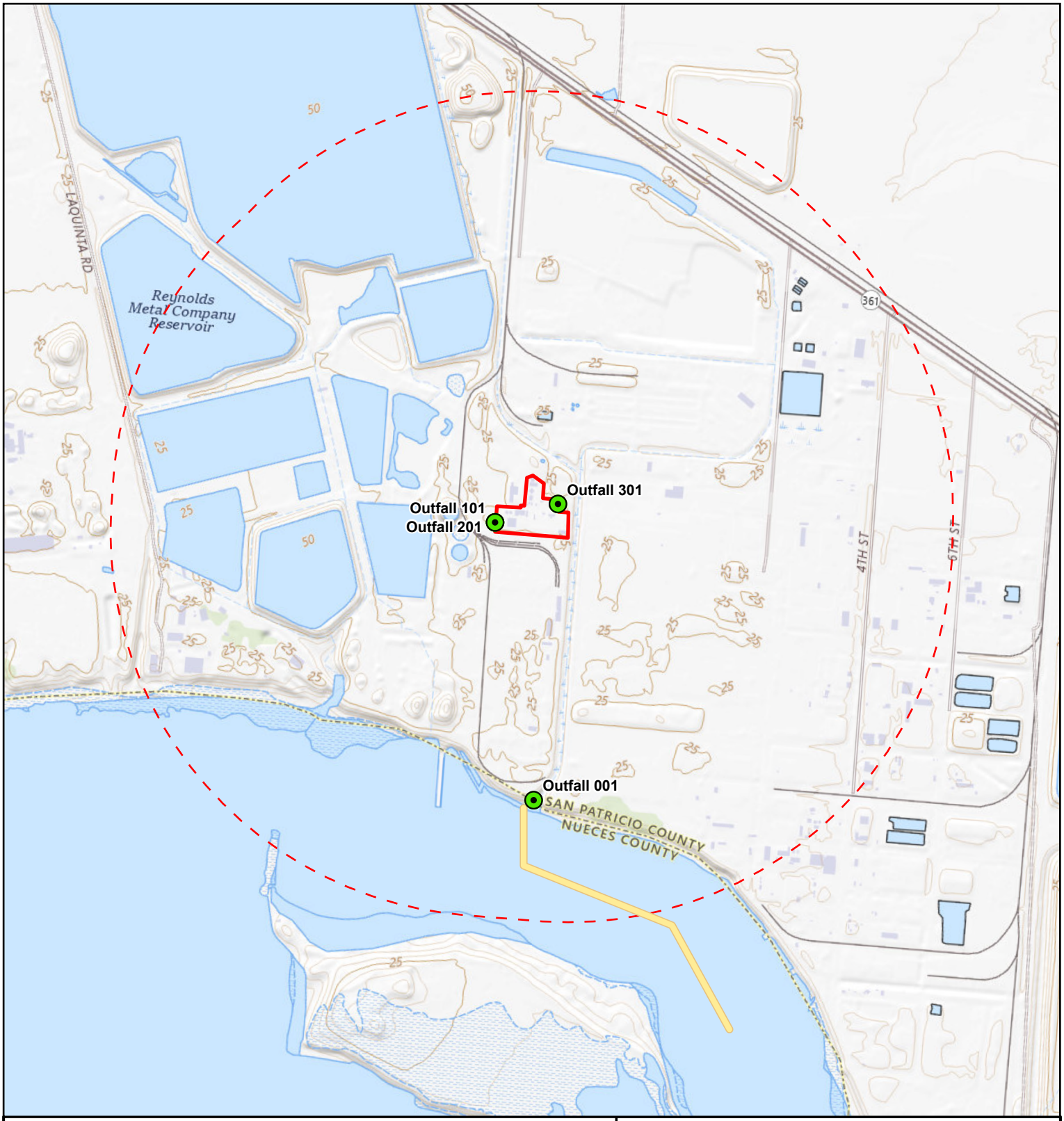
Electrical power generation

34. Mailing Address:	**PO Box 36**						
	City	**Gregory**	**State**	**TX**	**ZIP**	**78359**	**ZIP + 4**
35. E-Mail Address:	**John.swinney@calpine.com**						

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(281) 615-1502		( ) -

ATTACHMENT C

USGS TOPOGRAPHIC MAP



Legend

- Outfall
- Discharge Route
- One-mile Buffer
- Facility and Applicant Property Boundary

0 800 1,600 Feet

N

Source: Esri - USGS Topoographic Map; Updated 2025 WGS 1984 Web Mercator Auxiliary Sphere

USGS Topographic Map
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

	DATE	PROJECT NO
WESTON SOLUTIONS	Jul 2025	14847.027.002.0001

ATTACHMENT D

ENGLISH NORI COMMENTS

insert comma

78359

6. 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.

APPLICATION. Gregory Power Partners LLC, P.O. Box 36, Gregory, Texas 78659, which owns a combined-cycle, natural gas-fired electricity generation plant, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005219000 (EPA I.D. No. TX0137502) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 918,000 gallons per day. ~~The facility is located at (PENDING APPLICANT RESPONSE), near the city of Gregory, in San Patricio County, Texas 78359.~~ The discharge route is from the plant site via pipe from the Master Sump to an open ditch then directly to Corpus Christi Bay. TCEQ received this application on August 22, 2025. The permit application will be available for viewing and copying at Bell Whittington Public Library, Reference Desk, 2400 Memorial Parkway, Portland, in San Patricio County, Tex the newspaper. The application, including any electronically at the following webpage: https://www.tceq.texas.gov/permitting/waste link to an electronic map of the site or facility courtesy and not part of the application or no application.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.259166,27.888888&level=18

The facility is located as follows: from the intersection of State Highway (SH) 35 with SH 202 and SH 361, head 1.4 miles south on SH 361S, thence right on Reynolds Plant Road, thence 0.75 miles to the "Y", then right at the "Y" for 0.25 miles; the facility is on the left.

Further information may also be obtained from Gregory Power Partners LLC at the address stated above or by calling ~~Mr. Ray Dube, Calpine Corporation~~, at ~~830-305-8429.~~

7. 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.

Please submit the complete response, addressed to my attention by September 10, 2025. If you should have any questions, please do not hesitate to contact me by phone at (512) 239-4312 or by email at candice.calhoun@tceq.texas.gov

Jaron Bergin, EHS Director, Calpine Corporation

713-570-4631

Sincerely,

C. Calhoun

Candice Calhoun
Applications Review and Processing Team (MC148)
Water Quality Division
Texas Commission of Environmental Quality

ATTACHMENT E

SPANISH NORI
(ALSO PROVIDED AS A SEPARATE WORD FILE)

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. WQ000

SOLICITUD. Gregory Power Partners, LLC, P.O. Box 36, Gregory, Texas 78359, que posee una planta de generación de electricidad a gas natural de ciclo combinado, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0005219000 (EPA I.D. No. TX0137502) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 918,000 galones por día. La instalación está ubicada de la siguiente manera: desde la intersección de la Carretera Estatal (SH) con SH 202 y SH 361, dirígete 1.4 millas hacia el sur en SH 361S, luego gira a la derecha en Reynolds Plant Road, luego 0.75 millas hasta el "Y", luego a la derecha en el "Y" durante 0.25 millas; la instalación está a la izquierda, en el Condado de San Patricio, Texas. La ruta de descarga es desde el sitio de la planta a través de una tubería desde el sumidero maestro a una trinchera abierta y luego directamente a la bahía de Corpus Christi. La TCEQ recibió esta solicitud el 22 de agosto de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Pública Bell Whittington, Mesa de Referencia, 2400 Memorial Parkway, Portland, en el Condado de San Patricio, 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=-97.259166,27.888888&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 especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

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

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

También se puede obtener información adicional del Gregory Power Partners, LLC a la dirección indicada arriba o llamando a Sr. Jaron Bergin, Calpine Corporation, Director de EHS, al 713-570-4631.

Fecha de emisión: *[Date notice issued]*

Weston Solutions, Inc.
5301 Southwest Parkway, Suite 450
Austin, TX 78735
512-651-7100
WestonSolutions.com

22 August 2025

Executive Director
Application Review and Processing Team – MC148
Texas Commission on Environmental Quality
12100 Park 35 Circle, Bldg F, Rm 2101
Austin, Texas 78753

Via Email: wqdecopy@tceq.texas.gov

RE: Transmittal of Texas Pollutant Discharge Elimination System (TPDES) Permit Renewal Application WQ0005219000
RN 102547957 Gregory Power Facility
CN 604378208 Gregory Power Partners, LLC

Dear Sir or Madam:

Weston Solutions, Inc. (WESTON®) is pleased to submit this Texas Pollutant Discharge Elimination System (TPDES) permit renewal application for the above-referenced facility on behalf of Gregory Power Partners, LLC. The original application will be hand delivered to the above address.

Payment for the permit application fee has been made via ePay; documentation is included in the application.

Please contact me at 512-651-7104 or at nancy.koch@westonsolutions.com should you have any questions regarding this application.

Very truly yours,
Weston Solutions, Inc.

N. L. Koch

Nancy L. Koch, P.E.
Project Manager

cc: Bethany Santillan, Calpine
Ray Dube, Calpine

Attachments:
Attachment A – TPDES Renewal Application

ATTACHMENT A

TPDES RENEWAL APPLICATION

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the industrial wastewater permit application.

APPLICANT NAME: Gregory Power Partners, LLC

PERMIT NUMBER (If new, leave blank): WQ00 05219000

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Worksheet 8.0	☐	☒
Administrative Report 1.1	☐	☒	Worksheet 9.0	☐	☒
SPIF	☒	☐ E	Worksheet 10.0	☐	☒
Core Data Form	☒	☐ B	Worksheet 11.0	☐	☒
Summary of Application (PLS)	☒	☐ C	Worksheet 11.1	☐	☒
Public Involvement Plan Form	☐	☒	Worksheet 11.2	☐	☒
Technical Report 1.0	☒	☐	Worksheet 11.3	☐	☒
Worksheet 1.0	☒	☐	Original USGS Map	☒	☐ D
Worksheet 2.0	☒	☐	Affected Landowners Map	☐	☒
Worksheet 3.0	☐	☒	Landowner Disk or Labels	☐	☒
Worksheet 3.1	☐	☒	Flow Diagram	☒	☐ G
Worksheet 3.2	☐	☒	Site Drawing	☒	☐ F
Worksheet 3.3	☐	☒	Original Photographs	☐	☒
Worksheet 4.0	☒	☐	Design Calculations	☐	☒
Worksheet 4.1	☐	☒	Solids Management Plan	☐	☒
Worksheet 5.0	☐	☒	Water Balance	☐	☒
Worksheet 6.0	☐	☒			
Worksheet 7.0	☐	☒			

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs, except applications for oil and gas extraction operations subject to 40 CFR Part 435. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report.

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use Oil and Gas Exploration and Production Administrative Report (TCEQ Form-20893 and 20893-inst[1]).

Item 1. Application Information and Fees (Instructions, Page 26)

a. Complete each field with the requested information, if applicable.

Applicant Name: Gregory Power Partners, LLC

Permit No.: WQ0005219000

EPA ID No.: TX0137502

Expiration Date: February 18, 2026

b. Check the box next to the appropriate authorization type.

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

☐ Reverse Osmosis Water Treatment (reverse osmosis water treatment wastewaters only)

c. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

d. Check the box next to the appropriate permit type.

☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

e. Check the box next to the appropriate application type.

☐ New

☒ Renewal with changes ☐ Renewal without changes

☐ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: 1. We are requesting to remove internal Outfall 301, as domestic wastewater is transported off-site for disposal. 2. We are requesting that Other Requirement 3(f)(1) be amended to allow for multi-chlorination and continuous chlorination by adding the following language “Simultaneous multi-unit chlorination and continuous chlorination is permitted. The permittee shall dechlorinate continuously during the periods of continuous chlorination.” We request that the associated Other Requirement 3(f)(2) be deleted and Other Requirement 3(f)(3) be

[1] https://www.tceq.texas.gov/publications/search_forms.html

revised to indicate that the effluent is sufficiently dechlorinated when total residual chlorine concentrations are below 0.1 mg/L; during these periods of sufficient de-chlorination, a value of zero is to be used to calculate loading. Currently Gregory cannot operate at or below the level as provided in the current permit. Gregory has experienced reduced efficiency at the cooling tower and must run every fan; if one fan fails, the plant must be derated while the fan is repaired or replaced. Biological growth has been observed in the tower as well. Running low chlorine in the cooling tower can lead to a cascade of problems, including microbial growth, health risks, reduced efficiency, equipment damage, and increased operating costs. 3. For Outfall 201, we are requesting an increase in the daily average flow limit from 0.085 million gallons per day (MGD) to 1.1MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

g. Application Fee

EPA Classification	New	Major Amend. (with or without renewal)	Renewal (with or without changes)	Minor Amend. / Minor Mod. (without renewal)
Minor facility not subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $350	☐ $350	☐ $315	☐ $150
Minor facility subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $1,250	☐ $1,250	☒ $1,215	☐ $150
Major facility	N/A [2]	☐ $2,050	☐ $2,015	☐ $450

h. Payment Information

Mailed

Check or money order No.: Click to enter text.

Check or money order amt.: Click to enter text.

Named printed on check or money order: Click to enter text.

Epay

Voucher number: 780050, 780051

Copy of voucher attachment: A

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN604378208

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[3].

b. Legal name of the entity (applicant) applying for this permit: Gregory Power Partners, LLC

Note: The owner of the facility must apply for the permit. The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Mr. Full Name (Last/First Name): Swinney/John

Title: Plant Manager Credential: Click to enter text.

d. Will the applicant have overall financial responsibility for the facility?

☒ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

[2] All facilities are designated as minors until formally classified as a major by EPA.

[3] https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

Item 3. Co-applicant Information (Instructions, Page 27)

☒ Check this box if there is no co-applicant.; otherwise, complete the below questions.

a. Legal name of the entity (co-applicant) applying for this permit: Click to enter text.

Note: The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

b. Customer Number (if applicant is an existing customer): CNClick to enter text.

Note: Locate the customer number using the TCEQ's Central Registry Customer Search.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

d. Will the co-applicant have overall financial responsibility for the facility?

☐ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 4. Core Data Form (Instructions, Pages 27)

a. Complete and attach one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)). If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: B

Item 5. Application Contact Information (Instructions, Page 27)

Provide names of two individuals who can be contacted about this application. Indicate if the individual can be contacted about administrative or technical information, or both.

a. ☒ Administrative Contact ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Koch/Nancy

Title: Project Manager Credential: P.E.

Organization Name: Weston Solutions, Inc.

Mailing Address: 5301 Southwest Parkway, Suite 450 City/State/Zip: Austin, TX 78735

Phone No: 512-651-7104 Email: nancy.koch@westonsolutions.com

b. ☒ Administrative Contact ☒ Technical Contact

Prefix: Mr. Full Name (Last/First Name): Dube/Ray

Title: EHS Manager Credential: Click to enter text.

Organization Name: Calpine Corporation

Mailing Address: 717 Texas Avenue, Suite 1000 City/State/Zip: Houston, TX 77002

Phone No: 830-305-8429 Email: ray.dube@calpine.com

Attachment: Click to enter text.

Item 6. Permit Contact Information (Instructions, Page 28)

Provide two names of individuals that can be contacted throughout the permit term.

a. Prefix: Mr. Full Name (Last/First Name): Pate/Ty

Title: VP Central Region Operations Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: 717 Texas Avenue, Suite 1000 City/State/Zip: Houston, TX 77002

Phone No: 713-570-4823 Email: ty.pate@calpine.com

b. Prefix: Mr. Full Name (Last/First Name): Swinney/John

Title: Plant Manager Credential: Click to enter text.

Organization Name: Gregory Power Partners, LLC

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 281-615-1502 Email: john.swinney@calpine.com

Attachment: Click to enter text.

Item 7. Billing Contact Information (Instructions, Page 28)

The permittee is responsible for paying the annual fee. The annual fee will be assessed for permits **in effect on September 1 of each year**. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (form TCEQ-20029).

Provide the complete mailing address where the annual fee invoice should be mailed and the name and phone number of the permittee's representative responsible for payment of the invoice.

Prefix: Ms. Full Name (Last/First Name): Garza/Angela

Title: Business Manager Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 361-777-3062 Email: angela.garza@calpine.com

Item 8. DMR/MER Contact Information (Instructions, Page 28)

Provide the name and mailing address of the person delegated to receive and submit DMRs or MERs. **Note:** DMR data must be submitted through the NetDMR system. An electronic reporting account can be established once the facility has obtained the permit number.

Prefix: Ms. Full Name (Last/First Name): Santillan/Bethany

Title: EHS Specialist III Credential: Click to enter text.

Organization Name: Calpine Corporation

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 361-696-7707 Email: bethany.santillan@calpine.com

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms. Full Name (Last/First Name): Koch/Nancy

Title: Project Manager Credential: P.E.

Organization Name: Weston Solutions, Inc.

Mailing Address: 5301 Southwest Parkway, Suite 450 City/State/Zip: Austin, TX 78735

Phone No: 512-651-7104 Email: nancy.koch@westonsolutions.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package (only for NORI, NAPD will be sent via regular mail)

☒ E-mail: Nancy.Koch@westonsolutions.com

☐ Fax: Click to enter text.

☐ Regular Mail (USPS)

Mailing Address: Click to enter text.

City/State/Zip Code: Click to enter text.

c. Contact in the Notice

Prefix: Mr. Full Name (Last/First Name): Bergin/Jaron

Title: EHS Director Credential: Click to enter text.

Organization Name: Calpine Corporation

Phone No: 713-570-4631 Email: jaron.bergin@calpine.com

d. Public Viewing Location Information

Note: If the facility or outfall is located in more than one county, provide a public viewing place for each county.

Public building name: Bell Whitington Public Library Location within the building: Reference Desk

Physical Address of Building: 2400 Memorial Parkway

City: Portland County: San Patricio

e. Bilingual Notice Requirements

This information is required for new, major amendment, minor amendment or minor modification, and renewal applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is required.

1. 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 ☐ No

If no, publication of an alternative language notice is not required; skip to Item 8 (Regulated Entity and Permitted Site Information.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☒ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☒ Yes ☐ No

4. 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)?

   ☐ Yes ☒ No ☐ N/A

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

f. Summary of Application in Plain Language Template – Complete and attach the Summary of Application in Plain Language Template (TCEQ Form 20972), also known as the plain language summary or PLS. Attachment: C.

g. Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment. Attachment: Click to enter text.

Item 10. Regulated Entity and Permitted Site Information (Instructions Page 29)

a. TCEQ issued Regulated Entity Number (RN), if available: RN102547957

Note: If your business site is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.

b. Name of project or site (name known by the community where located): Gregory Power Facility

c. Is the location address of the facility in the existing permit the same?

☒ Yes ☐ No ☐ N/A (new permit)

Note: If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.

d. Owner of treatment facility:

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Gregory Power Partners, LLC

Mailing Address: P.O. Box 36 City/State/Zip: Gregory, TX 78359

Phone No: 281-615-1502 Email: john.swinney@calpine.com

e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be: Click to enter text.

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Cheniere Land Holdings, LLC

Mailing Address: 700 Milam St, Suite 1900 City/State/Zip: Houston, TX 77002

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: Click to enter text.

g. Owner of effluent TLAP disposal site (if applicable): N/A

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

h. Owner of sewage sludge disposal site (if applicable):

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

Item 11. TDPES Discharge/TLAP Disposal Information (Instructions, Page 31)

a. Is the facility located on or does the treated effluent cross Native American Land?

☐ Yes ☒ No

b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.

☒ One-mile radius	☐ Three-miles downstream information
☒ Applicant's property boundaries	☐ Treatment facility boundaries
☒ Labeled point(s) of discharge	☒ Highlighted discharge route(s)
☐ Effluent disposal site boundaries	☐ All wastewater ponds
☐ Sewage sludge disposal site	☐ New and future construction

Attachment: D

c. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: N/A

d. Are the point(s) of discharge in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

e. Are the discharge route(s) in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): Gregory

g. County in which the outfalls(s) is/are located: San Patricio

h. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If yes, indicate by a check mark if: ☐ Authorization granted ☐ Authorization pending

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: Click to enter text.

i. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes No or New Permit ☐ Not Applicable, not a TLAP

If no, or a new application, provide an accurate location description: Click to enter text.

j. City nearest the disposal site: Not Applicable, not a TLAP

k. County in which the disposal site is located: Not Applicable

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: Click to enter text.

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ0005219000

Applicant Name: Gregory Power Partners, LLC

Certification: I, John Swinney, 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.

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

Signatory name (typed or printed): John Swinney

Signatory title: Plant Manager

Signature: John W Swinney (Use blue ink) Date: 8-19-25

Subscribed and Sworn to before me by the said John W. Swinney

on this 19 day of August, 20 25.

My commission expires on the 01 day of 15, 20 27.

Melissa Lara
Notary Public

[SEAL] Melissa Lara
My Commission Expires
1/15/2027
Notary ID131854643

Nueces
County, Texas

Note: *If co-applicants are necessary, each entity must submit an original, separate signature page.*

CALPINE

DELEGATION OF SIGNATURE AUTHORITY MEMORANDUM

To: Delegation of Authority@calpine.com

From: Ty Pate, Vice President Regional Operations

Subject: Delegation of Signature Authority

Date: December 1, 2024

Commencing upon the effective date set forth below and continuing until the earliest of (i) the expiration date set forth below, or (ii) the date upon which the individual to whom authority is being delegated ("Delegatee") is no longer an employee of Calpine Corporation or any of its affiliates, or (iii) the date upon which I, the individual who is delegating authority hereunder, am no longer an employee or an Elected Officer of Calpine Corporation or any of its affiliates, I hereby authorize, empower and direct the Delegatee to execute agreements, documents, contracts, instruments and certificates as set forth below, for and on behalf of the Calpine entity identified below, that the Delegatee deems necessary or advisable in order to carry out the business of such Calpine entity, consistent with the policies and procedures of Calpine Corporation, including Calpine's Signature Authority and Expenditure Approval Authority Limits Policy; provided, however, that obligations arising from such acts do not exceed the maximum dollar amount set forth below.

Delegatee:	John Swinney
Title:	Plant Manager
Calpine entity for which authority is granted:	Gregory Power Partners LLC
Type of Transaction / Type of Contract:	All routine environmental, health and safety related regulatory and permit filings
Maximum dollar amount:	N/A
Effective date:	12/01/2024
Expiration date:	12/01/2025

ok
NH
12/2/24

When executing agreements for and on behalf of the Calpine entity identified above, the Delegatee shall use the following signature block:

Gregory Power Partners LLC

DS MA

By: Signed by: 23EF0E950E4F47...

Name: John Swinney

Title: Authorized Signatory and Plant Manager

Any and all actions taken or caused to be taken by the Delegatee in the conduct of the business of the Calpine entity identified above in connection with any of the matters contemplated by this delegation of signature authority, prior to the date hereof, are hereby acknowledged to be duly authorized acts and deeds performed on behalf of such Calpine entity and are hereby approved, adopted, accepted and ratified in all respects as the acts and deeds of such Calpine entity and that said actions shall have the same force and effect as if they were taken with the prior approval of such Calpine entity. This memorandum supersedes any and all previous delegations of such authority on behalf of such Calpine entity to the Delegatee.

The Delegatee shall not further delegate the authority granted herein.

Sincerely,

DocuSigned by: Ty Pate AD7AF918AAD74AD...

DS MA

Ty Pate

Vice President Regional Operations

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: E

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 Gregory Power Facility is a combined cycle natural gas fired facility with a generation capacity of approximately 388 MW electric and a steam capacity of approximately 140 MW equivalent. SIC Code = 4911, NAICS Code = 22112.

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

The facility utilizes water supplied by San Patricio Municipal Water District (SPMWD). This water is further processed as needed in support of the power generation operations. Wastewater is generated from cooling tower blowdown and low volume wastes. Low volume wastes include gas turbine wash water (no chemicals), neutralized demineralizer regenerate waste, and general washdown water via an oil/water separator. Cooling tower blowdown is discharged through Internal Outfall 101 and low volume wastes are discharged through Internal Outfall 201 where they are collected in the master sump before being discharged through Outfall 001 to Corpus Christi Bay. Please note that domestic wastewater and chemical metal cleaning waste are generated; however, these wastes are transported off-site for disposal.

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

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

Materials List

Raw Materials	Intermediate Products	Final Products
Water, 7732-18-5	Demineralized Water	Electricity
Natural Gas, 68410-63-9	Steam	
Water Treatment Additives (see Attachment H)		

Attachment: Click to enter text.

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

- 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: F

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

☐ Yes ☒ No

If **yes**, provide background discussion: Click to enter text.

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 Flood Map 48409C0445E

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: Click to enter text.

Attachment: Click to enter text.

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: Click to enter text.

If **no**, provide an approximate date of application submittal to the USACE: Click to enter text.

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.

All wastewater (except domestic) is collected in the master sump prior to discharge. With the goal of multi-unit and continuous chlorination in the cooling towers (see minor amendment request), sodium bisulfate will be used to de-chlorinate cooling tower blowdown. General wastewater and oily wastewaters are routed through an oil/water separator prior to discharge to the master sump.

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: G

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 #**	**Pond #**	**Pond #**	**Pond #**
Use Designation: (T) (D) (C) or (E)				
Associated Outfall Number				
Liner Type (C) (I) (S) or (A)				
Alt. Liner Attachment Reference				
Leak Detection System, Y/N				
Groundwater Monitoring Wells, Y/N				
Groundwater Monitoring Data Attachment				
Pond Bottom Located Above The Seasonal High-Water Table, Y/N				
Length (ft)				
Width (ft)				
Max Depth From Water Surface (ft), Not Including Freeboard				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
40 CFR Part 257, Subpart D, Y/N				
Date of Construction				

Attachment: Click to enter text.

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

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

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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/0r 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	27.878333	-97.257778
101	27.888611	-97.260278
201	27.888611	-97.260278

Outfall Location Description

Outfall No.	Location Description
001	Concrete spillway ~ 200 feet north of La Quinta Channel/Corpus Christi Bay
101	Cooling Tower Blowdown Effluent to Master Sump
201	Low Volume Waste Effluent to Master Sump

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

Outfall No.	Description of sampling point
001	After the exit from the master sump and prior to discharge to the east ditch
101	Sample tap in cooling tower blowdown line leading to master sump
201	Sample tap in low volume waste line leading to master sump

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	0.918	2.11	same	same	
101	0.832	0.999	same	same	
201	0.085	1.105	same	same	

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	Y	N	Flow meter
101	Y	N	Magnetic flow meter
201	Y	N	Magnetic flow meter

Outfall Discharge – Flow Characteristics

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

Outfall Wastestream Contributions

Outfall No. 001

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Cooling Tower Blowdown (Outfall 101)	0.832	90.6
Low Volume Waste (Outfall 201)	0.085	9.3

Outfall No. 101

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Cooling Tower Blowdown	0.832	100

Outfall No. 201

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Low Volume Waste	0.085	100

Attachment: Click to enter text.

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: H

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	2	832,300	999,000
Boilers	2 HSRGs + 2 Aux Boilers	49,000	59,000

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:

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: Domestic sewage is collected and hauled off site by a licensed septic hauler.

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

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	**Permit/Registration No.**
Texas Throne, LLC	24337
City of Corpus New Broadway Plant	WQ0010401005

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: Construction projects are currently in progress; however, no changes to wastewater types or increases in wastewater generation will result from these facility modifications.

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: Click to enter text.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** Click to enter text.

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: Click to enter text.

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: Click to enter text.

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)

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)

Item 12. Cooling Water (Instructions, Page 46)

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

☒ Yes ☐ No

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

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	W.A. Edwards Nueces River Raw Water Pump Station			
Owner	San Patricio Municipal Water District			
Operator	San Patricio Municipal Water District			

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

   ☒ Yes ☐ No

   If **no**, continue. If **yes**, provide the PWS Registration No. and stop here: PWS No. 2050011

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

   ☐ Yes ☐ No

   If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here: Click to enter text.

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

   ☐ Yes ☐ No

   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: Click to enter text.

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 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

   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*: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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.

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

☒ Yes ☐ No

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

1. We are requesting to remove internal Outfall 301, as domestic wastewater is transported off-site for disposal. 2. We are requesting that Other Requirement 3(f)(1) be amended to allow for multi-chlorination and continuous chlorination by adding the following language ”Simultaneous multi-unit chlorination and continuous chlorination is permitted. The permittee shall dechlorinate continuously during the periods of continuous chlorination” We request that the associated Other Requirement 3(f)(2) be deleted and Other Requirement 3(f)(3) be revised to indicate that the effluent is sufficiently dechlorinated when total residual chlorine concentrations are below 0.1 mg/L; during these periods of sufficient de-chlorination, a value of zero is to be used to calculate loading. Currently Gregory cannot operate at or below the level as provided in the current permit. Gregory has experienced reduced efficiency at the cooling tower and must run every fan; if one fan fails,

the plant must be derated while the fan is repaired or replaced. Biological growth has been observed in the tower as well. Running low chlorine in the cooling tower can lead to a cascade of problems, including microbial growth, health risks, reduced efficiency, equipment damage, and increased operating costs. 3. For Outfall 201, we are requesting an increase in the daily average flow limit from 0.085 million gallons per day (MGD) to 1.1 MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

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

☐ Yes ☒ No

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

Click to enter text.

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: John Swinney

Title: Director Plant Manager

Signature: John Swinney

Date: 8-19-25

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
Power Generation – Combined Cycle Generating Units	423

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
No production-based limits			

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units

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
N/A			

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.

Utility wastewater consists of Cooling Tower Blowdown and Low Volume Waste. Domestic sewage and chemical metal cleaning wastes are hauled off-site for disposal.

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
Cooling Tower Blowdown	40 CFR 423	423.15(a)(1)	1999
Low volume waste	40 CFR 423	423.15(a)(3)	1999

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): 5/19/2025-6/10/2025

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:** I

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:** Not applicable

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)
BOD (5-day)	< 2.00	3.31	2.45	< 2.00
CBOD (5-day)	< 2.00	< 2.00	< 2.00	< 2.00
Chemical oxygen demand	30.0	36.0	30.0	51.0
Total organic carbon	16.0	23.0	14.3	16.1
Dissolved oxygen	7.17	7.03	7.38	7.14
Ammonia nitrogen	0.20	0.20	0.26	0.15
Total suspended solids	28.0	23.8	54.5	24.3
Nitrate nitrogen	1.67	0.83	0.99	0.82
Total organic nitrogen	2.5	1.6	0.6	1.3
Total phosphorus	0.944	0.979	0.920	1.52
Oil and grease	< 2.00	2.38	< 2.00	< 2.00
Total residual chlorine	< 0.02	< 0.02	0.04	< 0.02

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total dissolved solids	1,930	2,130	2,370	2,800
Sulfate	808	634	721	809
Chloride	819	682	669	776
Fluoride	1.31	1.13	1.20	1.34
Total alkalinity (mg/L as CaCO3)	106	98.7	96.3	102
Temperature (˚F)	97.2	96.3	85.2	81.6
pH (standard units)	7.91	7.89	7.71	7.88

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)
Aluminum, total	233	171	414	269	2.5
Antimony, total	< 5	< 5	< 5	< 5	5
Arsenic, total	27.6	22.5	27.9	30.8	0.5
Barium, total	379	329	354	357	3
Beryllium, total	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Cadmium, total	< 1	< 1	< 1	< 1	1
Chromium, total	< 3	< 3	3.91	5.56	3
Chromium, hexavalent	< 3	< 3	< 3	< 3	3
Chromium, trivalent	< 3	< 3	4	6	N/A
Copper, total	7.24	5.49	7.43	8.50	2
Cyanide, available	< 5	< 5	< 5	< 5	2/10
Lead, total	< 0.5	< 0.5	0.75	< 0.5	0.5
Mercury, total	0.0039	0.0048	< 0.0005	0.0058	0.005/0.0005
Nickel, total	3.31	2.65	3.61	4.74	2
Selenium, total	< 5	< 5	< 5	< 5	5
Silver, total	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Thallium, total	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Zinc, total	41.2	57.3	41.5	58.8	5.0

TABLE 3 (Instructions, Page 58)

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

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

Table 3 for Outfall No.: Click to enter text. **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)***
Acrylonitrile					50
Anthracene					10
Benzene					10
Benzidine					50
Benzo(a)anthracene					5
Benzo(a)pyrene					5
Bis(2-chloroethyl)ether					10
Bis(2-ethylhexyl)phthalate					10
Bromodichloromethane [Dichlorobromomethane]					10
Bromoform					10
Carbon tetrachloride					2
Chlorobenzene					10
Chlorodibromomethane [Dibromochloromethane]					10
Chloroform					10
Chrysene					5
m-Cresol [3-Methylphenol]					10
o-Cresol [2-Methylphenol]					10
p-Cresol [4-Methylphenol]					10
1,2-Dibromoethane					10
m-Dichlorobenzene [1,3-Dichlorobenzene]					10
o-Dichlorobenzene [1,2-Dichlorobenzene]					10
p-Dichlorobenzene [1,4-Dichlorobenzene]					10
3,3'-Dichlorobenzidine					5
1,2-Dichloroethane					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1-Dichloroethene [1,1-Dichloroethylene]					10
Dichloromethane [Methylene chloride]					20
1,2-Dichloropropane					10
1,3-Dichloropropene [1,3-Dichloropropylene]					10
2,4-Dimethylphenol					10
Di-n-Butyl phthalate					10
Ethylbenzene					10
Fluoride					500
Hexachlorobenzene					5
Hexachlorobutadiene					10
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Methyl ethyl ketone					50
Nitrobenzene					10
N-Nitrosodiethylamine					20
N-Nitroso-di-n-butylamine					20
Nonylphenol					333
Pentachlorobenzene					20
Pentachlorophenol					5
Phenanthrene					10
Polychlorinated biphenyls (PCBs) (**)					0.2
Pyridine					20
1,2,4,5-Tetrachlorobenzene					20
1,1,2,2-Tetrachloroethane					10
Tetrachloroethene [Tetrachloroethylene]					10
Toluene					10
1,1,1-Trichloroethane					10
1,1,2-Trichloroethane					10
Trichloroethene [Trichloroethylene]					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
2,4,5-Trichlorophenol					50
TTHM (Total trihalomethanes)					10
Vinyl chloride					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 "<".

TABLE 4 (Instructions, Pages 58-59)

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

a. **Tributyltin**

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

☐ Yes ☒ No

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

☐ Manufacturers and formulators of tributyltin or related compounds.

☐ Painting of ships, boats and marine structures.

☐ Ship and boat building and repairing.

☐ Ship and boat cleaning, salvage, wrecking and scaling.

☐ Operation and maintenance of marine cargo handling facilities and marinas.

☐ Facilities engaged in wood preserving.

☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. **Enterococci (discharge to saltwater)**

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

c. E. coli (discharge to freshwater)

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	**Sample 1**	**Sample 2**	**Sample 3**	**Sample 4**	**MAL**
Tributyltin (µg/L)					0.010
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					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.: Click to enter text. **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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [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)*
Bromide	☒	☐	0.967	< 0.400	< 0.400	< 0.400	400
Color (PCU)	☒	☐	30.0	45.0	35.0	45.0	—
Nitrate-Nitrite (as N)	☒	☐	1.86	1.25	1.08	1.23	—
Sulfide (as S)	☒	☐	< 5	17.4	< 5	< 5	—
Sulfite (as SO3)	☐	☒	< 5	< 5	< 5	< 5	—
Surfactants	☒	☐	0.067	< 0.050	< 0.050	0.066	—
Boron, total	☒	☐	1.13	0.95	1.05	1.32	20
Cobalt, total	☒	☐	0.00038	0.00032	0.00065	0.00032	0.3
Iron, total	☒	☐	0.250	0.262	0.551	0.412	7
Magnesium, total	☒	☐	46.3	34.7	45.7	42.7	20
Manganese, total	☒	☐	0.110	0.050	0.101	0.055	0.5
Molybdenum, total	☒	☐	0.0086	0.0067	0.0069	0.0083	1
Tin, total	☐	☒	< 0.005	< 0.005	< 0.005	< 0.005	5
Titanium, total	☐	☒	< 0.03	< 0.03	< 0.03	< 0.03	30

TABLE 7 (Instructions, Page 60)

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

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/ Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☒ Steam Electric Power Plants	423	☒ Yes	☒ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

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

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

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

Table 8 for Outfall No.: 001 **Samples are (check one): ☐ Composite ☒ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	< 50	< 50	< 50	< 50	50
Acrylonitrile	< 50	< 50	< 50	< 50	50
Benzene	< 10	< 10	< 10	< 10	10
Bromoform	< 10	< 10	< 10	< 10	10
Carbon tetrachloride	< 2	< 2	< 2	< 2	2
Chlorobenzene	< 10	< 10	< 10	< 10	10
Chlorodibromomethane	< 10	< 10	< 10	< 10	10
Chloroethane	< 50	< 50	< 50	< 50	50
2-Chloroethylvinyl ether	< 10	< 10	< 10	< 10	10
Chloroform	< 10	< 10	< 10	< 10	10
Dichlorobromomethane [Bromodichloromethane]	< 10	< 10	< 10	< 10	10
1,1-Dichloroethane	< 10	< 10	< 10	< 10	10
1,2-Dichloroethane	< 10	< 10	< 10	< 10	10
1,1-Dichloroethylene [1,1-Dichloroethene]	< 10	< 10	< 10	< 10	10
1,2-Dichloropropane	< 10	< 10	< 10	< 10	10
1,3-Dichloropropylene [1,3-Dichloropropene]	< 10	< 10	< 10	< 10	10
Ethylbenzene	< 10	< 10	< 10	< 10	10
Methyl bromide [Bromomethane]	< 50	< 50	< 50	< 50	50
Methyl chloride [Chloromethane]	< 50	< 50	< 50	< 50	50
Methylene chloride [Dichloromethane]	< 20	< 20	< 20	< 20	20
1,1,2,2-Tetrachloroethane	< 10	< 10	< 10	< 10	10
Tetrachloroethylene [Tetrachloroethene]	< 10	< 10	< 10	< 10	10
Toluene	< 10	< 10	< 10	< 10	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	< 10	< 10	< 10	< 10	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
1,1,1-Trichloroethane	< 10	< 10	< 10	< 10	10
1,1,2-Trichloroethane	< 10	< 10	< 10	< 10	10
Trichloroethylene [Trichloroethene]	< 10	< 10	< 10	< 10	10
Vinyl chloride	< 10	< 10	< 10	< 10	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)
2-Chlorophenol	< 10	< 10	< 10	< 10	10
2,4-Dichlorophenol	< 10	< 10	< 10	< 10	10
2,4-Dimethylphenol	< 10	< 10	< 10	< 10	10
4,6-Dinitro-o-cresol	< 50	< 50	< 50	< 50	50
2,4-Dinitrophenol	< 50	< 50	< 50	< 50	50
2-Nitrophenol	< 20	< 20	< 20	< 20	20
4-Nitrophenol	< 50	< 50	< 50	< 50	50
p-Chloro-m-cresol	< 10	< 10	< 10	< 10	10
Pentachlorophenol	< 5	< 5	< 5	< 5	5
Phenol	< 10	< 10	< 10	< 10	10
2,4,6-Trichlorophenol	< 10	< 10	< 10	< 10	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: Click to enter text. **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)
Acenaphthene					10
Acenaphthylene					10
Anthracene					10
Benzidine					50
Benzo(a)anthracene					5
Benzo(a)pyrene					5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]					10
Benzo(ghi)perylene					20
Benzo(k)fluoranthene					5
Bis(2-chloroethoxy)methane					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Bis(2-chloroethyl)ether					10
Bis(2-chloroisopropyl)ether					10
Bis(2-ethylhexyl)phthalate					10
4-Bromophenyl phenyl ether					10
Butylbenzyl phthalate					10
2-Chloronaphthalene					10
4-Chlorophenyl phenyl ether					10
Chrysene					5
Dibenzo(a,h)anthracene					5
1,2-Dichlorobenzene [o-Dichlorobenzene]					10
1,3-Dichlorobenzene [m-Dichlorobenzene]					10
1,4-Dichlorobenzene [p-Dichlorobenzene]					10
3,3'-Dichlorobenzidine					5
Diethyl phthalate					10
Dimethyl phthalate					10
Di-n-butyl phthalate					10
2,4-Dinitrotoluene					10
2,6-Dinitrotoluene					10
Di-n-octyl phthalate					10
1,2-Diphenylhydrazine (as Azobenzene)					20
Fluoranthene					10
Fluorene					10
Hexachlorobenzene					5
Hexachlorobutadiene					10
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Indeno(1,2,3-cd)pyrene					5
Isophorone					10
Naphthalene					10
Nitrobenzene					10
N-Nitrosodimethylamine					50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
N-Nitrosodi-n-propylamine					20
N-Nitrosodiphenylamine					20
Phenanthrene					10
Pyrene					10
1,2,4-Trichlorobenzene					10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: Click to enter text. **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
alpha-BHC [alpha-Hexachlorocyclohexane]					0.05
beta-BHC [beta-Hexachlorocyclohexane]					0.05
gamma-BHC [gamma-Hexachlorocyclohexane]					0.05
delta-BHC [delta-Hexachlorocyclohexane]					0.05
Chlordane					0.2
4,4'-DDT					0.02
4,4'-DDE					0.1
4,4'-DDD					0.1
Dieldrin					0.02
Endosulfan I (alpha)					0.01
Endosulfan II (beta)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Endrin aldehyde					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
PCB 1242					0.2
PCB 1254					0.2
PCB 1221					0.2
PCB 1232					0.2
PCB 1248					0.2

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
PCB 1260					0.2
PCB 1016					0.2
Toxaphene					0.3

* Indicate units if different from µg/L.

Attachment: Click to enter text.

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: Click to enter text.

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: Click to enter text.

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

Table 12 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
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.: Click to enter text. **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

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: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

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: > 400 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: Click to enter text.

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: Generally, to the west of Outfall 001, constructed as part of the La Quinta Channel extension.

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.

ATTACHMENT A

PAYMENT DOCUMENTATION

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number: 582EA000681712
Date: 08/19/2025 01:43 PM
Payment Method: CC - Authorization 0000096724
ePay Actor: ANGELA GARZA
Actor Email: angela.garza@calpine.com
IP: 155.190.17.67
TCEQ Amount: $2,015.00
Texas.gov Fee: $45.59
Texas.gov Price: $2,060.59*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name: ANGELA GARZA
Company: CALPINE
Address: 4633A HWY 361, GREGORY, TX 78359
Phone: 361-777-3062

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
780050	WW PERMIT - MAJOR INDUSTRIAL FACILITY - RENEWAL		$2,000.00
780051	30 TAC 305.53B WQ RENEWAL NOTIFICATION FEE		$15.00
		TCEQ Amount:	$2,015.00

ePay Again | Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

© 2002-2025 Texas Commission on Environmental Quality

ATTACHMENT B

CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☒ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 604378208		**RN 102547957**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	7/1/2025

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Gregory Power Partners, LLC	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
801846854	15419106305	541910630	158590716

11. Type of Customer:	☒ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☐ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	PO Box 36						
	City	Gregory	**State**	TX	**ZIP**	78359	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	Ray.Dube@calpine.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(830) 305-8429		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Gregory Power Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**
24. County	San Patricio						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	The facility is located approximately 1 mile southwest of the intersection of Texas State Highway 361 and Chemours Plant Road.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Gregory			TX	78374	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	27.878432		**28. Longitude (W) In Decimal:**	-97.257775	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911		22112	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Electrical power generation

34. Mailing Address:	**PO Box 36**						
	City	**Gregory**	**State**	**TX**	**ZIP**	**78359**	**ZIP + 4**
35. E-Mail Address:	**John.swinney@calpine.com**						

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(281) 615-1502		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☒ Industrial Hazardous Waste
				97396
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0005219000			

SECTION IV: Preparer Information

40. Name:	Nancy L. Koch	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 651-7104		( ) -	nancy.koch@westonsolutions.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Gregory Power Partners, LLC	**Job Title:**	Plant Manager
Name *(In Print):*	John Swinney	**Phone:**	(281) 615- **1502**
Signature:	John Swinney	**Date:**	8-19-25

ATTACHMENT C

PLAIN LANGUAGE SUMMARY

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.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements. After filling in the information for your facility delete these instructions.

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.

Gregory Power Partners LLC (CN604378208) operates Gregory Power Facility (RN102547957), a power generating facility. The facility is located approximately 1 mile southwest of the intersection of Texas State Highway 361 and Chemours Plant Road, in San Patricio County, Texas 78374. The facility has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005219000 to authorize the discharge of industrial wastewater at a volume not to exceed a daily average flow of 918,000 gallons per day.

Discharges from the facility are expected to contain free available chlorine, copper, zinc, free cyanide, chromium, total suspended solids, and oil and grease. Types of wastewater discharged from the facility include previously monitored effluents through Outfall 001. Previously monitored effluents discharged through Outfall 001 are cooling tower blowdown from internal Outfall 101 and low volume waste sources from internal Outfall 201. Cooling tower blowdown from internal Outfall 101 is dechlorinated prior to discharge through Outfall 001. Low volume waste sources from internal Outfall 201 are treated by an oil water

separator prior to comingling with other wastewaters for discharge through Outfall 001.

The following minor amendments are being requested: 1: remove the authorization for the discharge of domestic waster and remove internal Outfall 301; 2: revise Other Requirement 3f(2) to allow for multi-chlorination and continuous chlorination in the cooling towers and revise Other Requirement 3f(3) to allow the use of zero when results are less than the detection limit for chlorine loading; and 3: for Outfall 201, an increase the daily average flow rate from 0.085 million gallons per day (MGD) to 1.1 MGD and an increase in the daily maximum flow rate from 1.105 MGD to 1.25 MGD.

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.

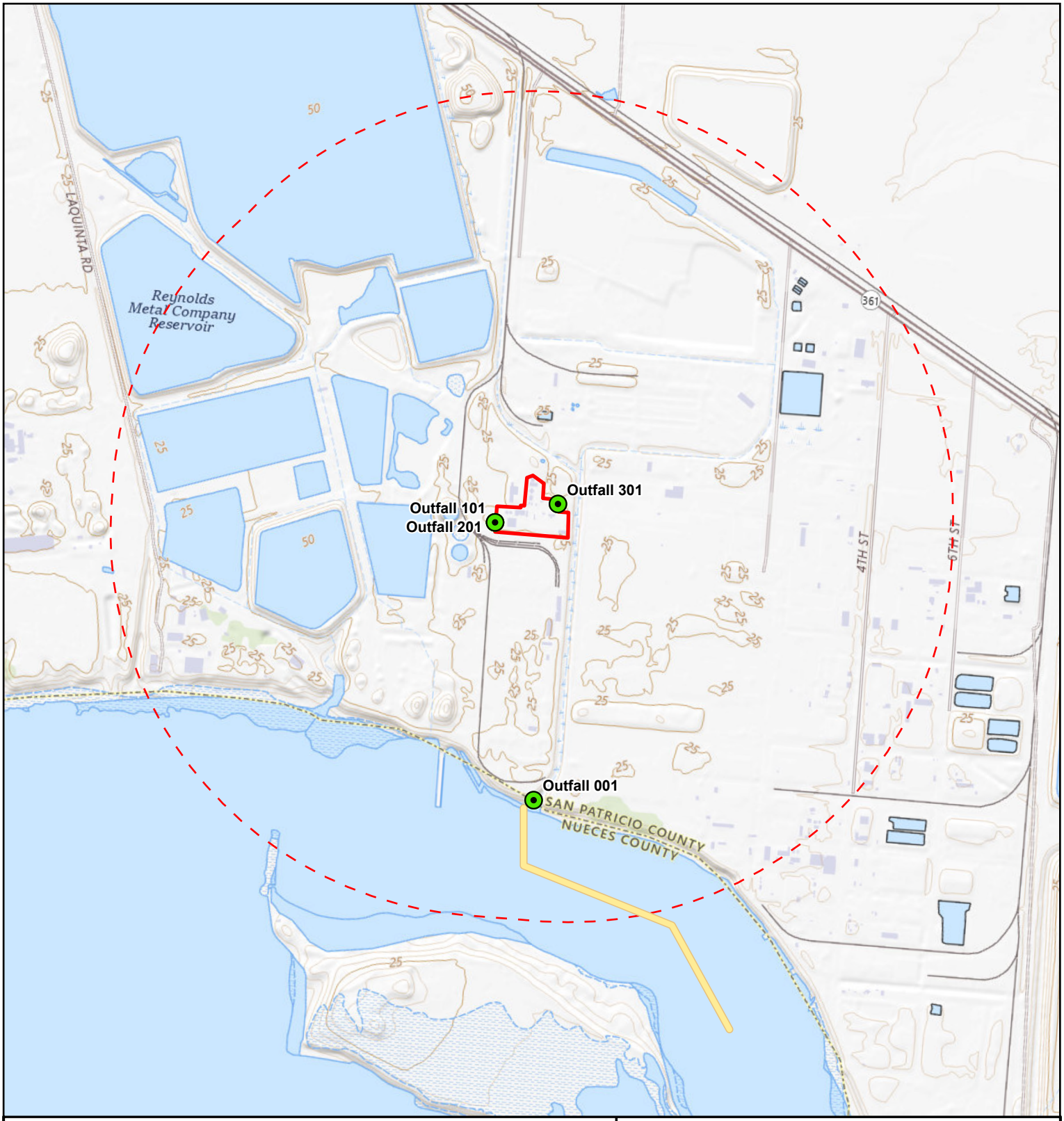
Gregory Power Partners, LLC (CN604378208) opera Gregory Power Facility (RN102547957), una instalación de generación de energía. La instalación está ubicada aproximadamente a 1 milla al suroeste de la intersección de la Carretera Estatal de Texas (SH) 361 y Chemours Plant Road, en Condado de San Patricio, Texas 78374. La instalación ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) la renovación del Permiso del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) No. WQ0005219000 para autorizar la descarga de aguas residuales industriales a un volumen que no exceda un promedio diario de 918,000 galones por día.

Se espera que las descargas de la instalación contengan cloro libre disponible, cobre, zinc, cianuro libre, cromo, sólidos suspendidos totales, aceite y grasa. Los tipos de aguas residuales descargadas de la instalación incluyen efluentes previamente monitoreados a través del emisario 001. Los efluentes monitoreados previamente descargaron de emisario 001 son la purga de la torre de enfriamento de emisario interno 101 y fuentes de desechos de bajo volumen desde emisario interno 201. La purga de la torre de enfriamiento es desclorado antes de ser descargado a través del emisario 001. Las fuentes de desechos de bajo volumen del emisario interno 201 se tratan mediante un separador de aceite y agua antes de mezclarse con otras aguas residuales para su descarga a través del emisario 001.

Se solicitan las siguientes enmiendas menores: 1: eliminar la autorización para el vertido de aguas residuales domésticas y eliminar la Salida interna 301; 2: revisar el Requisito adicional 3f(2) para permitir la multi-cloración y la cloración continua en las torres de enfriamiento y revisar el Requisito adicional 3f(3) para permitir el uso de cero cuando los resultados son inferiores al límite de detección para la carga de cloro; y 3: para la Salida 201, un aumento en la tasa de flujo promedio diario de 0.085 millones de galones por día (MGD) a 1.1 MGD y un aumento en la tasa de flujo máxima diaria de 1.105 MGD a 1.25 MGD.

ATTACHMENT D

USGS MAP



Legend

- Outfall
- Discharge Route
- One-mile Buffer
- Facility and Applicant Property Boundary

0 800 1,600 Feet

N

Source: Esri - USGS Topoographic Map; Updated 2025 WGS 1984 Web Mercator Auxiliary Sphere

USGS Topographic Map
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

	DATE	PROJECT NO
WESTON SOLUTIONS	Jul 2025	14847.027.002.0001

ATTACHMENT E

SUPPLEMENTAL PERMIT INFORMATION FORM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: _____Renewal _____Major Amendment ____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

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

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

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

The following applies to all applications:

1. Permittee: Gregory Power Partners, LLC; and Calpine Operating Services Company, Inc.

   Permit No. WQ00 05219000 EPA ID No. TX 0137502

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

   4633A Texas Highway 361, Gregory, TX 78359

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): Ms.

First and Last Name: Bethany Santillan

Credential (P.E, P.G., Ph.D., etc.): Click here to enter text.

Title: EHS Specialist

Mailing Address: P.O. Box 36

City, State, Zip Code: Gregory, TX 78359

Phone No.: 361.696.7707 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: Bethany.santillan@calpine.com

2. List the county in which the facility is located: San Patricio
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

4. 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 Outfall 001 directly to Corpus Christi Bay in Segment No. 2481 of the Bays and Estuaries.

5. 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).

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

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

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

☐ Disturbance of vegetation or wetlands

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

N/A

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

Existing land use is industrial.

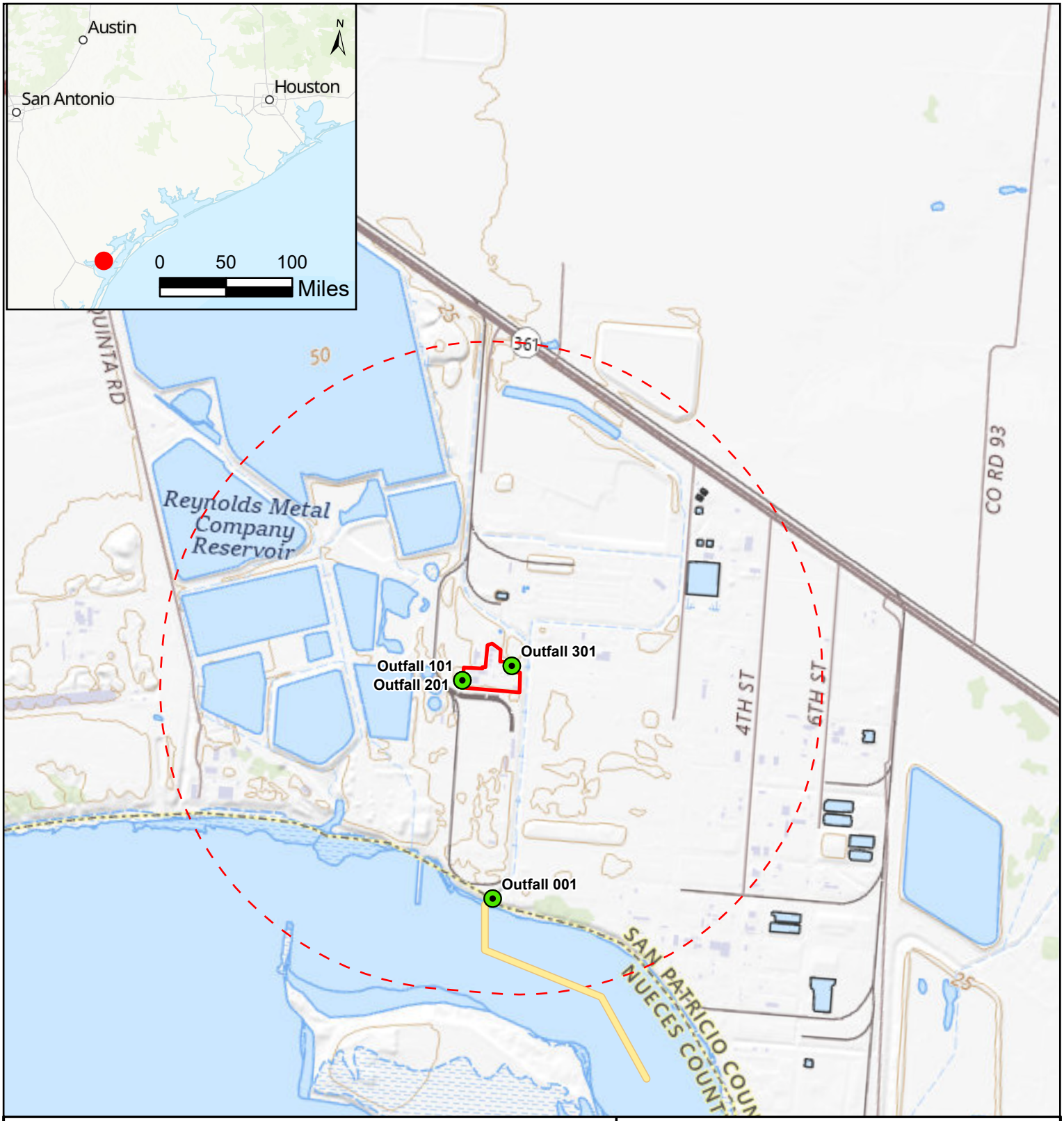
THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

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

Click here to enter text.

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

Click here to enter text.



Legend

- Outfall
- Discharge Route
- One-mile Buffer
- Applicant Property and Facility Boundary

0 800 1,600
Feet

N

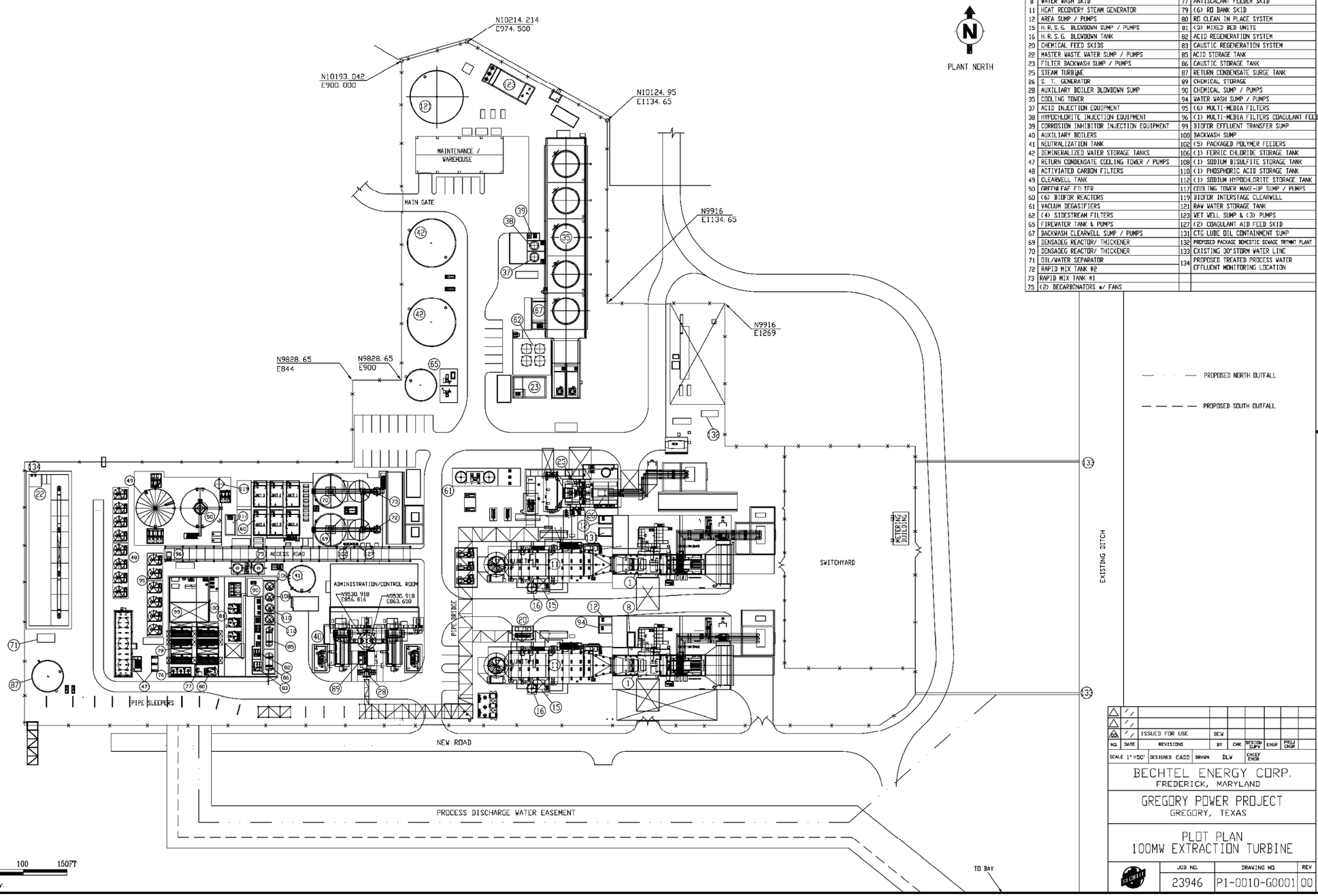
Source: Esri - USGS Topoographic Map; Updated 2025 WGS 1984 Web Mercator Auxiliary Sphere

SPIF Figure 1
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

	DATE	PROJECT NO
WESTON SOLUTIONS	Jul 2025	14847.027.002.0001

ATTACHMENT F

FACILITY MAP



LEGEND			
1	GAS TURBINE	76	RO PREFILTERS
8	WATER WASH SKID	77	ANTISCALANT FEEDER SKID
11	HEAT RECOVERY STEAM GENERATOR	79	(6) RO BANK SKID
12	AREA SUMP / PUMPS	80	RO CLEAN IN PLACE SYSTEM
15	H.R.S.G. BLOWDOWN SUMP / PUMPS	81	(3) MIXED BED UNITS
16	H.R.S.G. BLOWDOWN TANK	82	ACID REGENERATION SYSTEM
20	CHEMICAL FEED SKIDS	83	CAUSTIC REGENERATION SYSTEM
22	MASTER WASTE WATER SUMP / PUMPS	85	ACID STORAGE TANK
23	FILTER BACKWASH SUMP / PUMPS	86	CAUSTIC STORAGE TANK
25	STEAM TURBINE	87	RETURN CONDENSATE SURGE TANK
26	S. T. GENERATOR	89	CHEMICAL STORAGE
28	AUXILIARY BOILER BLOWDOWN SUMP	90	CHEMICAL SUMP / PUMPS
35	COOLING TOWER	94	WATER WASH SUMP / PUMPS
37	ACID INJECTION EQUIPMENT	95	(6) MULTI-MEDIA FILTERS
38	HYPOCHLORITE INJECTION EQUIPMENT	96	(1) MULTI-MEDIA FILTERS COAGULANT FEED
39	CORROSION INHIBITOR INJECTION EQUIPMENT	99	BIOFOR EFFLUENT TRANSFER SUMP
40	AUXILIARY BOILERS	100	BACKWASH SUMP
41	NEUTRALIZATION TANK	102	(5) PACKAGED POLYMER FEEDERS
42	DEMINERALIZED WATER STORAGE TANKS	106	(1) FERRIC CHLORIDE STORAGE TANK
47	RETURN CONDENSATE COOLING TOWER / PUMPS	108	(1) SODIUM BISULFITE STORAGE TANK
48	ACTIVIATED CARBON FILTERS	110	(1) PHOSPHORIC ACID STORAGE TANK
49	CLEARWELL TANK	112	(1) SODIUM HYPOCHLORITE STORAGE TANK
50	GREENLEAF FILTER	117	COOLING TOWER MAKE-UP SUMP / PUMPS
60	(6) BIOFOR REACTORS	119	BIOFOR INTERSTAGE CLEARWELL
61	VACUUM DEGASIFIERS	121	RAW WATER STORAGE TANK
62	(4) SIDESTREAM FILTERS	123	WET WELL SUMP & (3) PUMPS
65	FIREWATER TANK & PUMPS	127	(2) COAGULANT AID FEED SKID
67	BACKWASH CLEARWELL SUMP / PUMPS	131	CTG LUBE OIL CONTAINMENT SUMP
69	DENSADEG REACTOR/ THICKENER	132	PROPOSED PACKAGE DOMESTIC SEWAGE TRTMNT PLANT
70	DENSADEG REACTOR/ THICKENER	133	EXISTING 30"STORM WATER LINE
71	OIL/WATER SEPARATOR	134	PROPOSED TREATED PROCESS WATER EFFLUENT MONITORING LOCATION
72	RAPID MIX TANK #2		
73	RAPID MIX TANK #1		
75	(2) DECARBONATORS w/ FANS		

NO.	DATE	REVISIONS	BY	CHK	DESIGN SUPV	ENGR	PROJ ENGR
00		ISSUED FOR USE	BEW				

SCALE 1"=50' | DESIGNED CADD | DRAWN DLW | CHIEF ENGR

BECHTEL ENERGY CORP.
FREDERICK, MARYLAND

GREGORY POWER PROJECT
GREGORY, TEXAS

PLOT PLAN
100MW EXTRACTION TURBINE

JOB NO.	DRAWING NO.	REV
23946	P1-0010-G0001	00

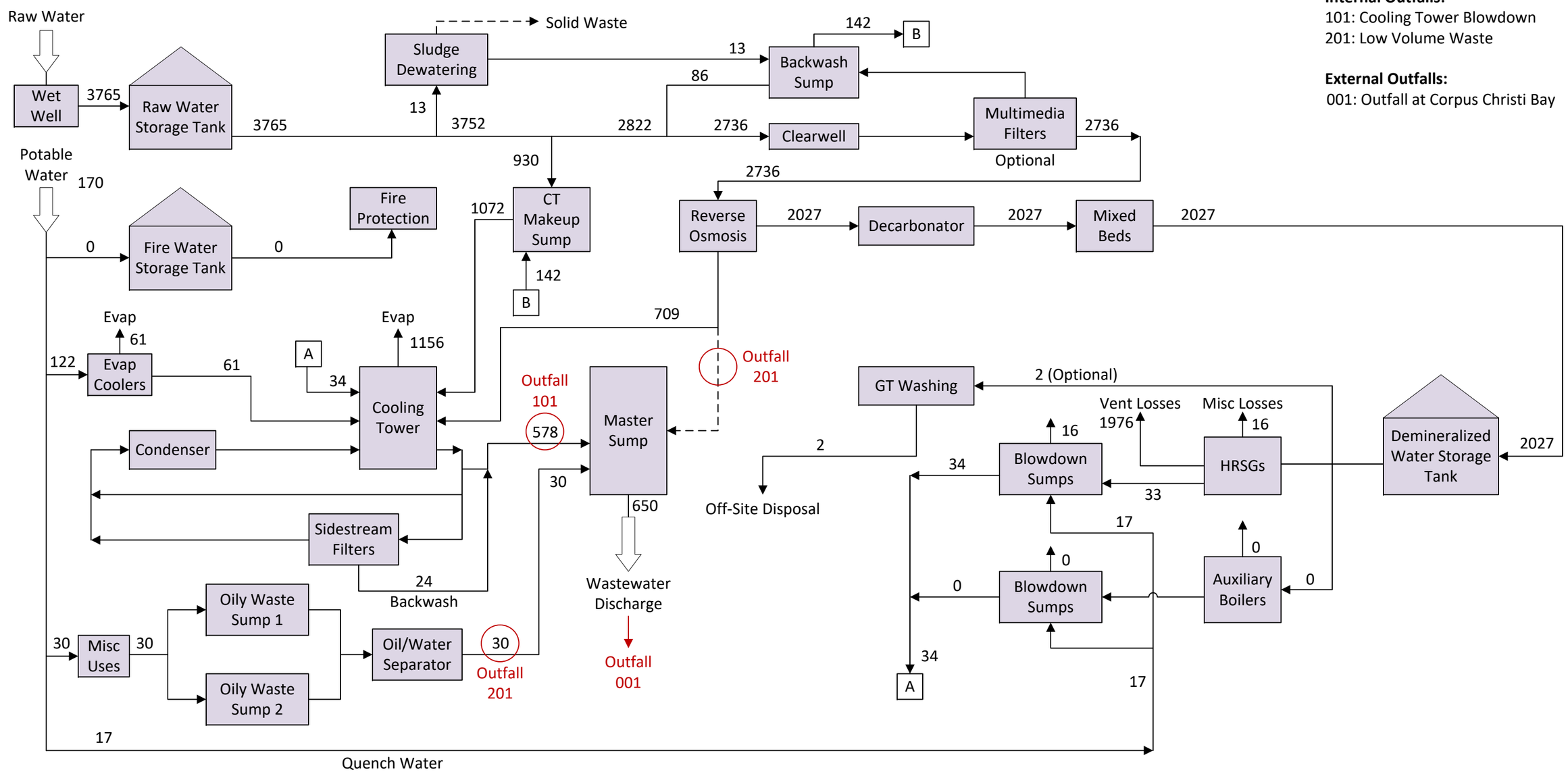
This information is for environmental review purposes only.

Attachment F
Gregory Power Partners LLC
San Patricio County, TX
Facility Map

M:\Clients\G-I\GPP_ArcGIS\2016\12\Project_Overview_GPP_Gregory_Station_Wastewater_System.mxd | REVISED: 12/07/2016 | SCALE: 1:4,334,074,480 when printed at 11x17 DRAWN BY: JPB

ATTACHMENT G

FLOW DIAGRAM



Attachment G
Gregory Power Partners LLC
San Patricio County, TX
Flow Schematic and Water Balance

ATTACHMENT H

COOLING TOWER AND BOILER CHEMICALS

Attachment H
Summary of Cooling Tower and Boiler Chemical Additives
Gregory Power Plant

Manufacturer	Manufacturers Product Identification/ Number	Product Use	Chemical Composition	Corresponding CAS Number	Toxicity			Toxicity for whole product?	Persistent/ Non-perisistent/ Bioaccumulative	Product or active ingredient half life			Concentration of product in blowdown	Frequency of product use
					Species and Test	LC50 and NOEL	Result			time	pH	Temp		
Veolia	Steamate PAP7000	Steam condensate treatment	Amine Corboxylates (N/A)	TSRN 125438-12065	Daphnia magna, 48Hr Daphnia magna, 48Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr	LC50 NOEL LC50 LC50 NOEL NOEL	6.2 mg/L 5 mg/L 7.1 mg/L 14.1 mg/L 5 mg/L 10 mg/L	Yes	N/A	N/A	N/A	N/A	27.6 ppm	Twice a week
Veolia	Steamate NA1324	Steam condensate treatment	Ammonia solution (20-40%) Ethanolamine (2.5-10%)	1336-21-6 141-43-5	Daphnia magna, 48Hr Mysid Shrimp, 96Hr Daphnia magna, 48Hr Mysid Shrimp, 96Hr Fathead Minnow, 96Hr Sheepshead Minnow, 96Hr Fathead Minnow, 96Hr Sheepshead Minnow, 96Hr	LC50 LC50 NOEL NOEL LC50 LC50 NOEL NOEL	46.49 mg/L 137.5 mg/L 6.25 mg/L 100 mg/L 53.59 mg/L 141.4 mg/L 25 mg/L 100 mg/L	Yes	N/A	N/A	N/A	N/A	34.8 ppm	Twice a week
Suez	Optisperse HP3100	Internal boiler treatment	Sodium hydroxide (2.5-10%)	1310-73-2	Fathead Minnow, 96Hr Fathead Minnow, 96Hr Daphnia magna, 48Hr Daphnia magna, 48Hr	LC50 NOEL LC50 NOEL	5020 mg/L 2750 mg/L 3300 mg/L 1250 mg/L	Yes	N/A	N/A	N/A	N/A	9.6 ppm	Twice a week
PCI Nitrogen	Sulfuric Acid - 93-98%	pH Control	Sulfuric Acid (93-98%) Water (2-7%)	7664-93-9 7732-18-5	Brschydanio rerio, 96hr Daphnia magna, 24hr	LC50 EC50	500 mg/L 29 mg/L	Sulfuric Acid	Biodegradable, not Bioaccumulative	N/A	N/A	N/A	90 mg/L	Daily, during operation
Brenntag	L A Chemchlor Sodium Hypochlorite 12.5	Cooling tower bio control	Hypochlorous acid, sodium salt (15%) Sodium hydroxide (1.5%)	7681-52-9 1310-73-2	Chinook salmon, 96Hr Water flea, 48Hr Western mosquitofish, 96Hr	LC50 EC50 LC50	0.038 mg/L 34.59 mg/L 125 mg/L	Hypochlorous acid Sodium hydroxide Sodium hydroxide	N/A	N/A	N/A	N/A	0.15 mg/L	Daily, during operation
Suez	Depositrol BL6501	Deposit control agent	Phosphonic acid (10-20%)	2809-21-4	Ceriodaphnia, 96hr Ceriodaphnia, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr	LC50 NOEL LC50 LC50 NOEL NOEL	1414 mg/L 1000 mg/L 5984 mg/L 6562 mg/L 4000 mg/L 4000 mg/L	Yes	N/A	N/A	N/A	N/A	27.0 ppm	Twice a week
Suez	Gengard GN8004	Dispersant	No hazardous ingredients	N/A	Ceriodaphnia, 48Hr Daphnia magna, 48Hr Ceriodaphnia, 48Hr Daphnia magna, 48Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr	LC50 LC50 NOEL NOEL LC50 LC50 NOEL NOEL	1707.6 mg/L 3677 mg/L 1250 mg/L 2500 mg/L 2367 mg/L 1894 mg/L 1250 mg/L 1250 mg/L	Yes	N/A	N/A	N/A	N/A	37.8 ppm	Twice a week
Suez	Foamtrol AF1440	Antifoam	Disitllates(petroluem), hydrotreated middle (60-80%) Fatty acids ethoxylate (2.5-10%) Fatty acids, C16-18 (2.5-10%)	64742-46-7 61791-00-2 67701-03-5	Daphnia magna, 48Hr Daphnia magna, 48Hr Rainbow Trout, 96hr Rainbow Trout, 96hr	LC50 NOEL LC50 NOEL	720 mg/L 250 mg/L 353 mg/L 250 mg/L	Yes	N/A	N/A	N/A	N/A	3.6 ppm	Twice a week
Suez	Biomate MBC2881	Biocide	2,2-dibromo-3-nitrilopropionamide (20-40%)	10222-01-2	Daphnia magna, 48Hr Mysid Shrimp, 48hr Daphnia magna, 48Hr Bluegill Sunfish, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr Sheepshead Minnow, 96hr Fathead Minnow, 96hr Rainbow Trout, 96hr	LC50 LC50 NOEL LC50 LC50 LC50 LC50 NOEL NOEL	3.3 mg/L 0.72 mg/L 2.15 mg/L 6.5 mg/L 8.7 mg/L 2.3 mg/L 7 mg/L 3.1 mg/L 1.8 mg/L	Yes	Readily Biodegradable	N/A	N/A	N/A	25.1 ppm	Daily, during operation
Suez	Hypersperse MDC714	Membrane Deposit Control Agent	No hazardous ingredients	N/A	Daphnia magna, 48Hr Daphnia magna, 48Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr Fathead Minnow, 96Hr Rainbow Trout, 96Hr	LC50 NOEL LC50 LC50 NOEL NOEL	1366 mg/L 1000 mg/L 5098 mg/L 5464 mg/L 2000 mg/L 4000 mg/L	Yes	Not Bioaccumulative	N/A	N/A	N/A	46.3 ppm	Twice a week
Veolia	Betzdearborn DCL30	Dechlorination Agent	Sodium bisulfite (20-40%)	7631-90-5	Daphnia magna, 48Hr Mysid Shrimp, 48hr Daphnia magna, 48Hr Mysid Shrimp, 48hr Fathead Minnow, 96hr Menida beryllina, 96hr Fathead Minnow, 96hr Menida beryllina, 96hr	LC50 LC50 NOEL NOEL LC50 LC50 NOEL NOEL	225 mg/L 370 mg/L 160 mg/L 156 mg/L 225 mg/L 930 mg/L 160 mg/L 156 mg/L	Yes	N/A	N/A	N/A	N/A	31.8 ppm	Daily, during operation
Suez	Spectrus NX1100	Biocide	2-Bromo-2-nitropropane-1,3-diol (Bronopol) (2.5-10%) Magnesium nitrate (2.5-10%) Mixture, see SDS (2.5-10%) Magnesium chloride (1-2.5%)	52-51-7 10377-60-3 55965-84-9 7786-30-3	Ceriodaphnia, 48hr Fathead Minnow, 96hr Menida beryllina, 96hr Mysid Shrimp, 48hr Sheepshead Minnow, 96hr Daphnia magna, 48Hr Rainbow Trout, 96Hr Ceriodaphnia, 48hr Fathead Minnow, 96hr Menida beryllina, 96hr Mysid Shrimp, 48hr Sheepshead Minnow, 96hr Daphnia magna, 48Hr Rainbow Trout, 96Hr	LC50 LC50 LC50 LC50 LC50 LC50 LC50 NOEL NOEL NOEL NOEL NOEL NOEL NOEL	4.7 mg/L 3.5 mg/L 15.9 mg/L 40.5 mg/L 26.7 mg/L 5 mg/L 7.2 mg/L 0.63 mg/L 1.8 mg/L 12.5 mg/L 18 mg/L 15.5 mg/L 2.5 mg/L 3.1 mg/L	Yes	Non-Persistent	N/A	N/A	N/A	25.1 ppm	Daily, during operation

N/A - Not available

VEOLIA

SAFETY DATA SHEET
STEAMATE* PAP7000

1. Identification

Product identifier **STEAMATE PAP7000**

Other means of identification None.

Recommended use Steam condensate treatment.

Recommended restrictions None known.

Company/undertaking identification

Veolia WTS USA, Inc.
3600 Horizon Blvd.
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. 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. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash 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

Components	CAS #	Percent
Amine Carboxylates	TSRN 125438 - 12065	

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

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information If 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. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up 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. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection	Splash proof chemical goggles.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Odorless
Odor threshold	Not available.
pH (concentrated product)	8.32 Neat
Melting point/freezing point	32 °F (0 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	Not Applicable
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	14.4 mPa.s
Viscosity temperature	77 °F (25 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	7.91 (5% Solution)
Pour point	37 °F (3 °C)
VOC	0 % ESTIMATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials. None under normal conditions.
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	Causes skin irritation.
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.

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	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Crustacea	LC50	Daphnia magna	6.2 mg/L, 48 H
	NOEL	Daphnia magna	5 mg/L, 48 H
Fish	LC50	Fathead Minnow	7.1 mg/L, 96 H
		Rainbow Trout	14.1 mg/L, 96 H
	NOEL	Fathead Minnow	5 mg/L, 96 H
		Rainbow Trout	10 mg/L, 96 H

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

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

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

Inventory status

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

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

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Mar-16-2020
Revision date	Feb-21-2023
Version #	1.1
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
NFPA ratings	

List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists BOD: Biochemical Oxygen Demand CAS: Chemical Abstract Service Registration Number COD: Chemical Oxygen Demand DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code LC50: Lethal Concentration, 50% LD50: Lethal Dose, 50% NOEL: No Observed Effect Level OSHA: Occupational Safety & Health Administration. STEL: Short Term Exposure Limit TOC: Total Organic Carbon TWA: Time Weighted Average 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	Exposure controls/personal protection: Respiratory protection Other information, including date of preparation or last revision: Prepared by
Prepared by	This SDS has been prepared by Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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

VEOLIA

SAFETY DATA SHEET
STEAMATE* NA1324

1. Identification

Product identifier	**STEAMATE NA1324**
Other means of identification	None.
Recommended use	Steam condensate treatment.
Recommended restrictions	Industrial use only.

Company/undertaking identification

Veolia WTS USA, Inc.
3600 Horizon Blvd.
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	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	Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Do not eat, drink or smoke when using this product.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a poison center/doctor. Specific treatment (see this label).
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Ammonia solution	1336-21-6	20 - 40
Ethanolamine	141-43-5	2.5 - 10

Contains a maximum of 19% ammonia as NH3.

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. If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

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 warm. Keep victim under observation. Symptoms may be delayed.

General information If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. 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 Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Following product recovery, 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 discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling

Do not taste or swallow. Avoid prolonged exposure. Do not mix with acidic material. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Use care in handling/storage. Do not get in eyes, on skin, or on clothing. Corrosive to skin or eyes.

Conditions for safe storage, including any incompatibilities

Store locked up. Do not freeze. If frozen, thaw completely and mix thoroughly prior to use. Store in accordance with local/regional/national/international regulation. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store away from acids.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
Ammonia solution (CAS 1336-21-6)	PEL	35 mg/m3
		50 ppm
Ethanolamine (CAS 141-43-5)	PEL	6 mg/m3
		3 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ammonia solution (CAS 1336-21-6)	STEL	35 ppm
	TWA	25 ppm
Ethanolamine (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ammonia solution (CAS 1336-21-6)	STEL	27 mg/m3
		35 ppm
	TWA	18 mg/m3
		25 ppm
Ethanolamine (CAS 141-43-5)	STEL	15 mg/m3
		6 ppm
	TWA	8 mg/m3
		3 ppm

Biological limit values

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

Appropriate engineering controls

Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

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

Skin protection

Hand protection

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

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

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

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Strong ammonia
Odor threshold	Not available.
pH (concentrated product)	13
Melting point/freezing point	-24 °F (-31 °C)
Initial boiling point and boiling range	160 °F (71 °C)
Flash point	> 212 °F (> 100 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	240 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	0.94
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	4 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	11.4 (5% SOL.)
Pour point	-19 °F (-28 °C)
VOC	4 % (Calculated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids.
Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire. Ammonia evolved in fire. Volatile amines.

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.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Components	Species	Test Results
Ammonia solution (CAS 1336-21-6)		
Acute		
Oral		
LD50	Rat	350 mg/kg
Ethanolamine (CAS 141-43-5)		
Acute		
Dermal		
LD50	Rabbit	1025 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 1.5 mg/l, 4 Hour
Oral		
LD50	Rat	1720 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Crustacea	LC50	Daphnia magna	46.49 mg/L, 48 H
		Mysid Shrimp	137.5 mg/L, 96 H (pH adjusted)
	NOEL	Daphnia magna	6.25 mg/L, 48 H
		Mysid Shrimp	100 mg/L, 96 H (pH adjusted)
Fish	LC50	Fathead Minnow	53.59 mg/L, 96 H
		Sheepshead Minnow	141.4 mg/L, 96 H (pH adjusted)
	NOEL	Fathead Minnow	25 mg/L, 96 H
		Sheepshead Minnow	100 mg/L, 96 H (pH adjusted)

Persistence and degradability

- **COD (mgO2/g)** 62 (calculated data)
- **BOD 5 (mgO2/g)** 28 (calculated data)
- **BOD 28 (mgO2/g)** 27 (calculated data)
- **TOC (mg C/g)** 17 (calculated data)

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
Ethanolamine -1.31

Bioconcentration factor (BCF)
Ethanolamine 3

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

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

14. Transport information

DOT

UN number UN2672
UN proper shipping name Ammonia solutions, RQ
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
ERG number 154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number UN2672
UN proper shipping name AMMONIA SOLUTION

Transport hazard class(es)

Class	8
Subsidiary risk	-

Packing group III
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN2672
UN proper shipping name AMMONIA SOLUTION, RQ(Ammonium Hydroxide), MARINE POLLUTANT
Transport hazard class(es)

Class	8
Subsidiary risk	-

Packing group III
Environmental hazards

Marine pollutant	Yes

EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

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

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonia solution (CAS 1336-21-6) Listed.

SARA 304 Emergency release notification

Ammonia; Ammonia (anhydrous) (CAS 1336-21-6) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Ammonia solution	1336-21-6	100	500		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

ARSENIC (CAS 7440-38-2)
Diethanolamine (CAS 111-42-2)
LEAD (CAS 7439-92-1)
MERCURY (CAS 7439-97-6)

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

Ammonia solution (CAS 1336-21-6)

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

Inventory status

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

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

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

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

Ammonia solution (CAS 1336-21-6)

California Proposition 65

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

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

ARSENIC (CAS 7440-38-2) Listed: February 27, 1987
Diethanolamine (CAS 111-42-2) Listed: June 22, 2012
LEAD (CAS 7439-92-1) Listed: October 1, 1992

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

LEAD (CAS 7439-92-1) Listed: February 27, 1987
MERCURY (CAS 7439-97-6) Listed: July 1, 1990

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

LEAD (CAS 7439-92-1) Listed: February 27, 1987

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

LEAD (CAS 7439-92-1) Listed: February 27, 1987

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

Issue date	Oct-15-2014
Revision date	Apr-24-2023
Version #	6.2
NFPA ratings	Health: 3 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code NFPA: National Fire Protection Association ACGIH: American Conference of Governmental Industrial Hygienists DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. OSHA: Occupational Safety & Health Administration. 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 Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
OPTISPERSE* HP3100

1. Identification

Product identifier **OPTISPERSE HP3100**

Other means of identification None.

Recommended use Water based internal boiler treatment chemical.

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.

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

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

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium hydroxide	1310-73-2	2.5 - 10

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. 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 Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media Water fog. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up Ventilate the area. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Flush with plenty of water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Do not breathe mist or vapor. 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. Use care in handling/storage. Do not mix with acidic material.

Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container. Store in accordance with local/regional/national/international regulation. Avoid freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

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

Appropriate engineering controls
Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation 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
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Suitable gloves can be recommended by the glove supplier. Glove selection must take into account any solvents and other hazards present.

Other
Wear appropriate chemical resistant clothing.

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

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance

Color
Colorless to light yellow

Physical state
Liquid

Odor
Odorless

Odor threshold
Not available.

pH (concentrated product)
> 13 Neat

pH in aqueous solution
12.4 (2.5% Solution)

Melting point/freezing point
21 °F (-6 °C)

Initial boiling point and boiling range
210 °F (99 °C)

Flash point
Not applicable.

Evaporation rate
Slower than Ether

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.11
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	12 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	26 °F (-3 °C)
Specific gravity	1.113
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. None under normal conditions. Protect from freezing.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon, nitrogen, phosphorus, and sulphur 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. Inhalation of vapors/mists/aerosols may cause eye, nose, throat and lung irritation.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract.
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. May cause respiratory irritation. Symptoms on skin may develop from redness and itching with development to burns due to corrosion. Symptoms on eyes may develop from tearing with development into severe irritation and/or burns due to corrosion. Permanent eye damage including blindness could result. Symptoms on ingestion may develop from discomfort with development into severe irritation and/or burns due to corrosion.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.

Product	Species	Test Results
OPTISPERSE HP3100 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin burns.

Serious eye damage/eye irritation Causes severe eye burns.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
OPTISPERSE HP3100 (CAS Mixture)			
	LC50	Fathead Minnow	5020 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead Minnow	2750 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
Aquatic			
Crustacea	LC50	Daphnia magna	3300 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	1250 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)

Persistence and degradability	Not available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	Not available.
Persistence and degradability	
- COD (mgO2/g)	No information available.

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations. Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water. The waste generator is responsible to determine the hazard information and physicochemical properties of the material/product generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. 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	Avoid discharge into water courses or onto the ground. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Depending on the origin and state of the waste, other EWC numbers may be applicable too.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.
ERG number	154

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

IATA

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	154
Special precautions for user	Not available.

IMDG

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.

EmS F-A, S-B

Special precautions for user Not available.

DOT

IATA; IMDG

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

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

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

Food and drug administration

ALL ingredients in this product are authorized in 21CFR173.310 for use as boiler water additives where the steam may contact food.
The components of the product are considered GRAS for animal feed (FDA 21 CFR 582.1763, 582.6760).

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 146608
Category Code(s):
G5 Cooling and retort water treatment products
G6 Boiler treatment products, steam line products – food contact

US state regulations

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Sep-26-2014

Revision date Jan-25-2019

Version # 6.0

NFPA ratings

Health: 3
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
EC-No: European Commission Number
CLP: Regulation on classification, labeling and packaging of substances and mixtures
DSD: Dangerous Substances Directive
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
RID: International Rule for Transport of Dangerous Substances by Railway
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	Composition / Information on Ingredients: Disclosure Overrides Handling and storage: Conditions for safe storage, including any incompatibilities Physical and chemical properties: Appearance Physical and chemical properties: Odor Stability and reactivity: Conditions to avoid Transport Information: Material Transportation Information Regulatory information: California Prop 65
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET

Sulfuric Acid – 93-98%

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

Product Name:	Sulfuric Acid 93-98 Percent
Product Code:	SA93/98
Formula:	H_2SO_4
Synonyms:	Oil of Vitriol
Product Use:	Inorganic Acid. For industrial use only.
Manufacturer:	PCI Nitrogen, LLC 713-920-5300 2001 Jackson Rd www.pcicorp.net Pasadena, TX 77506
Emergency Phone #s:	CHEMTREC 1-800-424-9300 (within US)

2. HAZARDS IDENTIFICATION

Hazards:	Skin Corrosion, 1A, H314 Eye Damage, 1, H318 Carcinogen, 1A, H350

Label Elements

Hazard Symbol:	
Signal Word:	Danger
Hazard Statement:	H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage. H350 - May cause cancer (Inhalation).
Precautionary Statements	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe fumes, mist, vapors, spray. P264 - Wash hands and forearms thoroughly after handling. P280 - Wear eye protection, face protection, protective gloves, protective clothing. P301, P330, P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303, P361, P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

	P304, P340 - IF INHALED: Remove 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. P308, P313 - If exposed or concerned: Get medical advice/ attention. P310 - Immediately call a POISON CENTER or doctor. P321 - Specific treatment (see Section 4). P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.
Hazard(s) Not Otherwise Classified:	Not applicable
Supplemental Information:	Not applicable

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredients	% (w/w)	CAS Number	Hazards
Sulfuric Acid	93-98	7664-93-9	Skin Corrosion, 1A, H314 Eye Damage, 1, H318 Carcinogen, 1A, H350
Water	7-2	7732-18-5	Not classified

4. FIRST AID MEASURES

General:	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).
Inhalation:	Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice.
Eye Contact:	Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Skin Contact:	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Rinse mouth.

Most Important Symptoms and Effects, both acute and delayed	
General:	Corrosive. Causes burns.
Inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include: burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.
Eye Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Skin Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Highly corrosive to skin.
Ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms:	Prolonged and frequent exposure through inhalation may cause cancer.

5. FIRE FIGHTING MEASURES

Conditions of Flammability:	Not flammable but reacts exothermically with incompatibles, releasing heat and increasing risk of fire or explosion.
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire. Do not get water inside containers. Do not apply water stream directly at source of leak. A direct water stream will cause violent splattering and generation of heat.
Fire Fighting Procedures:	Exercise caution when fighting any chemical fire. Do not get water inside containers. Do not apply water stream directly at source of leak. Do not enter the fire area without proper protective equipment, including respiratory protection. Do not allow run-off from fire fighting to enter drains or water courses.
Fire & Explosion Hazards:	Risk of fire and explosion on contact with combustible substances or reducing agents. Reacts exothermically with (some) bases. Violent exothermic reaction with water: release of corrosive gases/vapors.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment And Emergency Procedures

General:	Do not get in eyes, on skin, or on clothing. Do not breathe vapor or mist.

For Non- Emergency Personnel:	Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection. Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel.
For Emergency Responders:	Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection. Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.
Environmental Precautions:	Do not allow to enter drains or water courses. Avoid release to the environment.

Methods And Materials For Containment And Clean Up

For Containment:	Liquid spill: neutralize with powdered limestone or sodium bicarbonate. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not absorb with combustible material such as: saw dust or cellulosic material.
Methods for Cleaning Up:	Ventilate area. Collect absorbed material and place into a sealed, labelled container for proper disposal.

7. HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.
Storage:	Store in original container or corrosive resistant and/or lined container. May be stored in stainless steel containers. Store in an area having corrosion resistant concrete floor. Store in a dry, cool and well-ventilated place. Store away from other materials. Incompatible with: reducing agents, organic materials, alkalis, moisture.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational Exposure Limits – Sulfuric Acid (7664-93-9)

Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA IDLH	US IDLH (mg/m³)	15 mg/m³
Alberta	OEL STEL (mg/m³)	3 mg/m³
Alberta	OEL TWA (mg/m³)	1 mg/m³

British Columbia	OEL TWA (mg/m³)	0.2 mg/m³ (Thoracic, contained in strong inorganic acid mists)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³
New Brunswick	OEL STEL (mg/m³)	3 mg/m³
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³
Nunavut	OEL STEL (mg/m³)	3 mg/m³
Nunavut	OEL TWA (mg/m³)	1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	3 mg/m³
Northwest Territories	OEL TWA (mg/m³)	1 mg/m³
Ontario	OEL TWA (mg/m³)	0.2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³
Québec	VECD (mg/m³)	3 mg/m³
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³
Yukon	OEL STEL (mg/m³)	1 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Engineering Controls:	Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protection Equipment

Hand Protection:	Wear chemically resistant protective gloves.
Eye / Face Protection:	A full face shield is recommended. Chemical goggles or safety glasses.
Skin Protection:	Chemical resistant suit. Rubber apron, boots.
Respiratory Protection:	Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Thermal Hazard Protection:	If material is hot, wear thermally resistant protective gloves.
General Hygiene Considerations:	When using, do not eat, drink or smoke.

9. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Clear
Odor:	Pungent, irritating
Odor Threshold:	Not available
pH:	< 1
Evaporation Rate (Butyl Acetate=1):	Not available
Melting/Freezing Point:	- 1 °C (30 °F)
Boiling Point:	327 °C (621 °F)
Flash Point:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Flammability (solid, gas):	Not available
Lower Flammable Limit:	Not available
Upper Flammable Limit:	Not available
Vapor Pressure:	0.002 mm Hg at 40 °C (104 °F)
Relative Vapor Density at 20°C:	3.4 (air = 1)
Relative Density:	1.84 at 15.55°C (60 °F) (water = 1)
Density:	15.35 lb/gal at 15.55˚C (60˚F)
Solubility:	Miscible
Log Pow:	Not available
Log know:	Not available
Viscosity, Kinematic:	Not available
Viscosity, Dynamic:	26.7 cP at 20 °C (68 °F)
Explosion Data – Sensitivity to Mechanical Impact:	Not available
Explosion Data – Sensitivity to Static Discharge:	Not available

10. STABILITY AND REACTIVITY

Reactivity:	Reacts exothermically with (some) bases. Violent exothermic reaction with water (moisture): release of corrosive gases/vapors.
Stability:	Stable at standard temperature and pressure.
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Protect from moisture. Water. Keep away from (strong) bases. Contact with metallic substances.
Incompatible Materials:	Reducing agents, water, combustible materials, bases, organic materials, metals.
Decomposition Products:	Under conditions of fire this material may produce sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	Not classified
LD50 and LC50 Data:	See below and Section 12
Skin Corrosion/ Irritation:	Causes severe skin burns and eye damage (pH: < 1)
Serious Eye Damage/ Irritation:	Causes serious eye damage (pH: < 1)
Respiratory or Skin Sensitization:	Not classified
Germ Cell Mutagenicity:	Not classified
Teratogenicity:	Not available
Carcinogenicity:	May cause cancer (Inhalation)
Specific Target Organ Toxicity (Repeated Exposure):	Not classified
Specific Target Organ Toxicity (Single Exposure):	Not classified
Reproductive Toxicity:	Not classified
Aspiration Hazard:	Not classified
Symptoms/ Injuries After Inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include: Burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.

Symptoms/ Injuries After Skin Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Highly corrosive to skin.
Symptoms/ Injuries After Eye Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/ Injuries After Ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms:	Prolonged and frequent exposure through inhalation may cause cancer.

Information on Toxicological Effects – Ingredients(s) – LD50 and LC50 Data

Sulfuric Acid (7664-93-9)

LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat (mg/l)	510 mg/m³ (Exposure time: 2 h)
ATE (oral)	2140 mg/kg body weight
ATE (dust, mist)	510 mg/l/4h
IARC Group	1 (inorganic acid mist)

12. ECOLOGICAL INFORMATION

Toxicity

Sulfuric Acid (7664-93-9)

LC50 Fish 1	500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	29 mg/l (Exposure time: 24 h - Species: Daphnia magna)

Persistence and Degradability

Sulfuric Acid 93-98 Percent

Persistence and Degradability	Product is biodegradable.

Bioaccumulative Potential

Sulfuric Acid 93-98 Percent

Bioaccumulative Potential	Not expected to bioaccumulate.

Sulfuric Acid (7664-93-9)

BCF fish 1	(no bioaccumulation)
Mobility in Soil:	Not available
Other Adverse Effects:	Not available

13. DISPOSAL CONSIDERATIONS

Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

14. TRANSPORT INFORMATION

DOT UN No.:	UN 1830
DOT Proper Shipping Name:	Sulfuric Acid
DOT Hazard Classes:	Class 8 – Corrosive
DOT Symbols:	None
DOT Packing Group:	II
DOT Special Provisions:	See 49 CFR 172.102
DOT Reportable Quantity (RQ):	1,000 lbs
USCG CHRIS Codes:	SFA

15. REGULATORY INFORMATION

Sulfuric Acid 93-98 Percent

SARA Section 311/312 Hazard Classes - Immediate (acute) health hazard Delayed (chronic) health hazard

US Federal Regulations

Sulfuric Acid (7664-93-9)

United States TSCA (Toxic Substances Control Act) inventory	Yes
EPCRA (SARA) § 313 Toxic Release Inventory (TRI)	Yes – Aerosol forms only
EPCRA (SARA) § 302 Extremely Hazardous Substance (EHS)	Yes
EPCRA (SARA) § 302 Threshold Planning Quantity (TPQ)	1,000 lb
EPCRA (SARA) § 302 EHS Reportable Quantity (RQ)	1,000 lb
CERCLA Reportable Quantity (RQ)	1,000 lb
CERCLA Hazardous Substance	Yes

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Sulfuric Acid (7664-93-9)

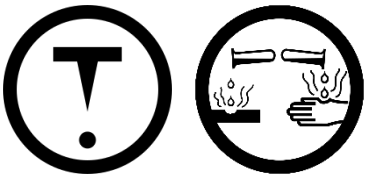
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List

U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Canadian Regulations

Sulfuric Acid 93-98 Percent

WHMIS Classification:	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects, Class E - Corrosive Material



Sulfuric Acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List) Inventory
Listed on the Canadian Ingredient Disclosure List

WHMIS Classification:	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects, Class E - Corrosive Material

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) Inventory

WHMIS Classification:	Uncontrolled product according to WHMIS classification criteria

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

16. OTHER INFORMATION

Prepared by:	Technical Staff at PCI Nitrogen, LLC. Telephone: 713-920-5300

The information contained in this Safety Data Sheet (SDS) relates only to the specific product(s) designated herein. The information and recommendations are based upon data believed to be current as of the date of this SDS and was obtained from sources believed to be accurate. However, this information is furnished without warranty, representations, or license of any kind, express or implied, with respect to accuracy, correctness, or completeness and neither PCI Nitrogen, LLC nor its marketing affiliates assume any legal responsibility for use or reliance upon same.

BRENNTAG

SAFETY DATA SHEET

1. Identification

Product identifier **L A CHEMCHLOR SODIUM HYPOCHLORITE 12.5**

Other means of identification None.

Recommended use ALL PROPER AND LEGAL PURPOSES

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Brenntag Pacific Inc.

Address 10747 Patterson Place
Santa Fe Springs, CA 90670

Telephone 562-903-9626

E-mail Not available.

Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, dermal	Category 4
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 Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash 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 100% of the mixture consists of component(s) of unknown acute oral toxicity. 98.5% 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	%
HYPOCHLOROUS ACID, SODIUM SALT (1:1)		7681-52-9	15

Chemical name	Common name and synonyms	CAS number	%
SODIUM HYDROXIDE (NA(OH))		1310-73-2	1.5
Other components below reportable levels			83.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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 warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Foam. 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 or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. When using, do not eat, drink or smoke. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	Ceiling	2 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
HYPOCHLOROUS ACID, SODIUM SALT (1:1) (CAS 7681-52-9)	STEL	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.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

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.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color CLEAR, LIGHT YELLOW-GREEN

Odor CHLORINE

Odor threshold Not available.

pH 12.5

Melting point/freezing point -15 °F (-26.11 °C)

Initial boiling point and boiling range 252.91 °F (122.73 °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	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	Not available.
Other information	
Density	10.00 lbs/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	83.5 % estimated
Specific gravity	1.2

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 acids.
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. Harmful in contact with skin.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Harmful in contact with skin.
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 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard 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.

Components		Species	Test Results
HYPOCHLOROUS ACID, SODIUM SALT (1:1) (CAS 7681-52-9)			
Aquatic			
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha)	0.038 - 0.065 mg/l, 96 hours
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)			
Aquatic			
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 this product.

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. 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 UN1791

UN proper shipping name HYPOCHLORITE SOLUTIONS

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ERG number	154

DOT information on packaging may be different from that listed.

IATA

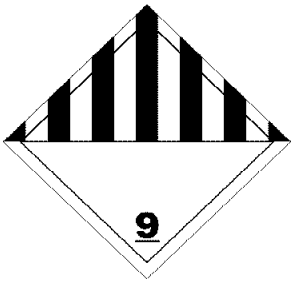
UN number	UN1791
UN proper shipping name	HYPOCHLORITE SOLUTIONS
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	154
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

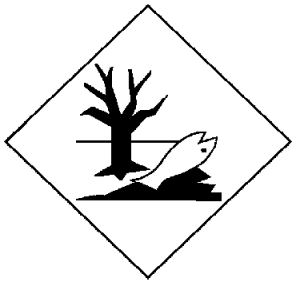
UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYPOCHLOROUS ACID, SODIUM SALT (1:1)), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT; IATA

IMDG



Marine pollutant



General information	IMDG Regulated Marine Pollutant.

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

HYPOCHLOROUS ACID, SODIUM SALT (1:1) (CAS 7681-52-9)	Listed.
SODIUM HYDROXIDE (NA(OH)) (CAS 1310-73-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
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 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

SODIUM HYDROXIDE (NA(OH)) (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)	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 Toxic Chemical Substances (TCS)	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	05-23-2015
Revision date	03-23-2018
Version #	11
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 3 Flammability: 0 Instability: 1
Disclaimer	While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

SAFETY DATA SHEET
DEPOSITROL* BL6501

1. Identification

Product identifier **DEPOSITROL BL6501**

Other means of identification None.

Recommended use Deposit control agent

Recommended restrictions Industrial use only.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Serious eye damage/eye irritation Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes serious eye damage.

Precautionary statement

Prevention Wear eye protection/face protection.

Response Immediately call a POISON CENTER or doctor/physician. 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.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Phosphonic acid, (1-hydroxyethylidene)bis-	2809-21-4	10 - 20

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

4. First-aid measures

Inhalation	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	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. 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. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	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 get this material in contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. See Section 8 of the SDS for Personal Protective Equipment.
Conditions for safe storage, including any incompatibilities	Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Avoid exposure to the atmosphere. Avoid high temperatures. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide eyewash station. Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	1.2
Melting point/freezing point	25 °F (-4 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not available.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.18
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	14 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	2 (5% SOL.)
Pour point	30 °F (-1 °C)
Specific gravity	1.18
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with strong bases may cause a violent reaction releasing heat.
Incompatible materials	Avoid contact with strong bases. Avoid contact with strong oxidizers.
Hazardous decomposition products	Oxides of carbon, nitrogen, phosphorus, and sulphur evolved in fire.

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	Causes serious eye damage.
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. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
DEPOSITROL BL6501		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Phosphonic acid, (1-hydroxyethylidene)bis- (CAS 2809-21-4)		
Acute		
Dermal		
LD50	Rabbit	> 7940 mg/kg
Oral		
LD50	Rat	1878 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not classified.

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
DEPOSITROL BL6501			
Aquatic			
Crustacea	LC50	Ceriodaphnia	1414 mg/L, 96 hour (pH adjusted)
	NOEL	Ceriodaphnia	1000 mg/L, 96 hour (pH adjusted)
Fish	LC50	Fathead Minnow	5984 mg/L, 96 hour (pH adjusted)
		Rainbow Trout	6562 mg/L, 96 hour (pH adjusted)
	NOEL	Fathead Minnow	4000 mg/L, 96 hour (pH adjusted)
		Rainbow Trout	4000 mg/L, 96 hour (pH adjusted)

Persistence and degradability

- COD (mgO2/g)	342 (calculated data)
- BOD 5 (mgO2/g)	0 (calculated data)
- BOD 28 (mgO2/g)	17 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	5 (calculated data)
- TOC (mg C/g)	94 (calculated data)

Bioaccumulative potential

Mobility in soil	No data available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company. D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories 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

Acrylic acid (CAS 79-10-7)
Sodium chloride (CAS 7647-14-5)

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

Not regulated.

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

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 141933
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Dec-03-2014
Revision date Dec-22-2021
Version # 2.1

NFPA ratings	Health: 3 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	CAS: Chemical Abstract Service Registration Number ACGIH: American Conference of Governmental Industrial Hygienists TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code NFPA: National Fire Protection Association AICIS: Australian Inventory of Industrial Chemicals. DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. OSHA: Occupational Safety & Health Administration. WHMIS: Workplace Hazardous Materials Information System. TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
GENGARD* GN8004

1. Identification

Product identifier **GENGARD GN8004**

Other means of identification None.

Recommended use Dispersant

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification. The material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard's (29CFR 1910.1200) implementation of the Globally Harmonized System (GHS), i.e., material is not a dangerous substance or mixture requiring GHS classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments This product does not contain hazardous ingredients in reportable concentrations. Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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	Handle in accordance with good industrial hygiene and safety procedures. Avoid prolonged exposure.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Keep container tightly closed. Store in cool, well ventilated area. Store away from oxidizers. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Yellow to amber
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	5 Neat
pH in aqueous solution	5.9 (5% Solution)
Melting point/freezing point	25 °F (-4 °C)
Initial boiling point and boiling range	219 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.13
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	44 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	30 °F (-1 °C)
Specific gravity	1.134
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Prolonged or repeated contact may cause transient irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	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

Product	Species	Test Results
GENGARD GN8004 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	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
GENGARD GN8004 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Ceriodaphnia	1707.6 mg/L, Static Acute Bioassay, 48 hour
		Daphnia magna	3677 mg/L, Static Acute Bioassay, 48 hour
	LOEL	Ceriodaphnia	1000 mg/L, Chronic Bioassay, 7 day
	NOEL	Ceriodaphnia	1250 mg/L, Static Acute Bioassay, 48 hour
			500 mg/L, Chronic Bioassay, 7 day
		Daphnia magna	2500 mg/L, Static Acute Bioassay, 48 hour
Fish	LC50	Fathead Minnow	2367 mg/L, Static Acute Bioassay, 96 hour
		Rainbow Trout	1894 mg/L, Static Acute Bioassay, 96 hour
	LOEL	Fathead Minnow	2000 mg/L, Chronic Bioassay, 7 day
	NOEL	Fathead Minnow	1250 mg/L, Static Acute Bioassay, 96 hour
			1000 mg/L, Chronic Bioassay, 7 day
		Rainbow Trout	1250 mg/L, Static Acute Bioassay, 96 hour

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Nutrients: P : 1.449 mg/g, N : 2.62 mg/g (TKN)

Persistence and degradability

- **COD (mgO2/g)** 385 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 24 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 6 (calculated data)
- **TOC (mg C/g)** 109 (calculated data)

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Oct-27-2014

Revision date Dec-06-2019

Version # 5.0

NFPA ratings	Health: 0 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	OSHA: Occupational Safety & Health Administration. 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 NFPA: National Fire Protection Association
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
FOAMTROL* AF1440

1. Identification

Product identifier **FOAMTROL AF1440**

Other means of identification None.

Recommended use Antifoam

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

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

Precautionary statement

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

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

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

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

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

3. Composition/information on ingredients

Mixtures

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

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

4. First-aid measures

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

5. Fire-fighting measures

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

6. Accidental release measures

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

7. Handling and storage

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

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

8. Exposure controls/personal protection

Occupational exposure limits

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

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

US. ACGIH Threshold Limit Values

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

US. NIOSH: Pocket Guide to Chemical Hazards

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

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

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

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

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

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

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

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance Liquid

Physical state Liquid.

Form Liquid.

Color Amber

Odor Hydrocarbon

Odor threshold Not available.

pH (concentrated product) Not available.

Melting point/freezing point 18 °F (-8 °C)

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

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	May cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways.

Product	Species	Test Results
FOAMTROL AF1440		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 5 mg/l, 4 Hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	4.6 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Fatty acids, C16-18 (CAS 67701-03-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity Not classified.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Distillates(petroleum), hydrotreated middle (CAS 64742-46-7)	Known To Be Human Carcinogen.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

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

Persistence and degradability

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

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

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

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

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

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

Inventory status

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

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

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

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

US state regulations

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

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

California Proposition 65

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

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

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

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

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

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

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

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

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

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

Issue date Nov-14-2014

Revision date Mar-04-2022

Version # 4.0

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

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

References:

No data available

Disclaimer

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

Revision information

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

Prepared by

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

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

SAFETY DATA SHEET
BIOMATE* MBC2881

1. Identification

Product identifier **BIOMATE MBC2881**

Other means of identification None.

Recommended use Biocide

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

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

Disposal Dispose of waste and residues in accordance with local authority requirements.

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

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
2,2-dibromo-3-nitrilopropionamide	10222-01-2	20 - 40

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

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Carbon dioxide, dry chemicals, foam, water spray (fog).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Neutralize the spilled material before disposal. Neutralize with approximately 17.2 grams sodium bisulfite or 15.7 grams sodium metabisulfite for every 100 grams biocide product. Never return spills to original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Use care in handling/storage. Do not taste or swallow. Do not mix with alkaline material. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	USERS OF A PESTICIDE PRODUCT SHOULD REFER TO THE PRODUCT LABEL FOR PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS. Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	A respiratory protection program that meets OSHA's 29 CFR 1910.34 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult the product label for respirator use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Not available.
Color	Yellow to amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	1.9 Neat
Melting point/freezing point	-0.04 °F (-18 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Slower than Ether

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.1 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1
Relative density	1.27
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	64 mPa.s
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	3.3 (5% Solution)
Pour point	5 °F (-15 °C)
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	Carbon dioxide, bromine, cyanogen bromide, dibromoacetonitrile

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed. May cause an allergic skin reaction.

Product	Species	Test Results
BIOMATE MBC2881		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)

Product	Species	Test Results
Inhalation		
LC50	Rat	1.3 mg/l, 4 hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	510 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
2,2-dibromo-3-nitrilopropionamide (CAS 10222-01-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	0.32 mg/l, 4 Hour
Oral		
LD50	Rat	206 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Aquatic			
Algae	ErC50	Algae	1.5 mg/L, 72 hours
Crustacea	EC50	Daphnia magna	0.65 mg/L, 21 days (Reproduction EC50)
	LC50	Daphnia magna	3.3 mg/L, 48 hours
			1.3 mg/L, 21 days
		Mysid Shrimp	0.72 mg/L, 48 hours (Data given as toxicity of active component.)
	LOEC	Daphnia magna	0.6 mg/L, 21 days (Reproduction LOEC)
	NOEL	Daphnia magna	2.15 mg/L, 48 hours
			0.35 mg/L, 21 days (Reproduction NOEL)

Product		Species	Test Results
Fish	LC50	Bluegill Sunfish	6.5 mg/L, 96 hours
		Fathead Minnow	8.7 mg/L, 96 hours
		Rainbow Trout	2.3 mg/L, 96 hours
		Sheepshead Minnow	7 mg/L, 96 hours
	NOEL	Fathead Minnow	3.1 mg/L, 96 hours
		Rainbow Trout	1.8 mg/L, 96 hours
Other	LC50	Marine Copepod (Acartia tonsa or other)	1.78 mg/L, 48 hours

Persistence and degradability

Readily biodegradable.
78 % degradation in 28 days
CO2 Evolution (Modified Sturm Test) (OECD 301B)
(Refers to active component: 2,2-dibromo-3-nitrilopropionamide)

Readily biodegradable.
78 % degradation in 28 days
CO2 Evolution (Modified Sturm Test) (OECD 301B)
(Refers to active component: 2,2-dibromo-3-nitrilopropionamide)

- **COD (mgO2/g)** 959
- **TOC (mg C/g)** 732
- **CO2 evolution (modified Sturm test)** 78

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
2,2-dibromo-3-nitrilopropionamide 0.79

Bioconcentration factor (BCF)
2,2-dibromo-3-nitrilopropionamide 13
Species: Fish

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of in approved pesticide facility or according to label instructions. Incinerate the material under controlled conditions in an approved incinerator.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

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

14. Transport information

DOT

- **UN number** UN3265
- **UN proper shipping name** Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** III
- **Special precautions for user** Not available.
- **ERG number** 153

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

IATA

- **UN number** UN3265

UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	153
Special precautions for user	Not available.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE)), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Not available.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number.

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Corrosive to metal Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)	Hazardous substance
Safe Drinking Water Act (SDWA)	Contains component(s) regulated under the Safe Drinking Water Act.

Inventory status

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

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

FIFRA registration number	3876-95
TSCA	This is an EPA registered biocide and is exempt from TSCA inventory requirements.
Food and drug administration	The ingredients in this product are approved by FDA under 21 CFR 176.300.

Other federal regulations

Hazard statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
Corrosive
Causes irreversible eye damage
Harmful if inhaled, swallowed, or absorbed through the skin
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals
This pesticide is toxic to fish and aquatic organisms

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Oct-17-2014
Revision date	Jun-15-2022
Version #	4.0
NFPA ratings	Health: 3 Flammability: 0 Instability: 0
NFPA ratings	
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% EC50: Effect Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
HYPERSPERSE* MDC714

1. Identification

Product identifier	**HYPERSPERSE MDC714**
Other means of identification	None.
Recommended use	Membrane Deposit Control Agent
Recommended restrictions	None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

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

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Colorless to yellow
Physical state	Liquid
Odor	Slight
Odor threshold	Not available.
Melting point/freezing point	-8 °F (-22 °C)
Initial boiling point and boiling range	216 °F (102 °C)
Flash point	Not applicable.
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1
Relative density	1.42
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	100 mPa.s
Viscosity temperature	77 °F (25 °C)
Other information	
Pour point	-3 °F (-19 °C)
Specific gravity	1.419
VOC	0 % ESTIMATED
pH (concentrated product)	7.6 Neat
pH in aqueous solution	7.9 (5% Solution)

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	Oxides of carbon, nitrogen and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	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

Product	Species	Test Results
HYPERSPERSE MDC714 (CAS Mixture)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
HYPERSPERSE MDC714 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	1366 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	1000 mg/L, Static Renewal Bioassay, 48 hour
Fish	LC50	Fathead Minnow	5098 mg/L, Static Renewal Bioassay, 96 hour
		Rainbow Trout	5464 mg/L, Static Renewal Bioassay, 96 hour
	NOEL	Fathead Minnow	2000 mg/L, Static Renewal Bioassay, 96 hour
		Rainbow Trout	4000 mg/L, Static Renewal Bioassay, 96 hour

Bioaccumulative potential Not bioaccumulating

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

Not inherently biodegradable.

- **COD (mgO2/g)** 180 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 0 (calculated data)
- **TOC (mg C/g)** 38,5

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines): Certified to: NSF/ANSI 60
Maximum concentration is 10mg/L - NSF requirement

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Oct-08-2014

Revision date Nov-09-2020

Version # 1.3

NFPA ratings Health: 0
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations	CAS: Chemical Abstract Service Registration Number ACGIH: American Conference of Governmental Industrial Hygienists NOEL: No Observed Effect Level STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% TWA: Time Weighted Average BOD: Biochemical Oxygen Demand COD: Chemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

VEOLIA

SAFETY DATA SHEET
BETZDEARBORN* DCL30

1. Identification

Product identifier **BETZDEARBORN DCL30**

Other means of identification None.

Recommended use Dechlorination agent

Recommended restrictions None known.

Company/undertaking identification

Veolia WTS USA, Inc.
3600 Horizon Blvd.
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Causes eye irritation. May cause respiratory irritation.

Precautionary statement

Prevention Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.

Response Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. 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.

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

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

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium bisulphite	7631-90-5	20 - 40

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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. If eye irritation persists: Get medical advice/attention.

Ingestion Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information If 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. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Never return spills to original containers for re-use.

Environmental precautions Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements.

7. Handling and storage

Precautions for safe handling Vent carefully before opening. Sulfur dioxide can be formed during the normal use and handling of this product. Avoid breathing mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities Store locked up. Avoid freezing. If frozen, thaw completely and mix thoroughly prior to use. Keep container tightly closed.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	5 mg/m3

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

Appropriate engineering controls Provide adequate ventilation. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

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

Other Wear appropriate chemical resistant clothing.

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

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance Liquid

Physical state Liquid.

Form Not available.

Color Colorless to light yellow

Odor Strong odor

Odor threshold Not available.

pH (concentrated product) 4.5 Neat

Melting point/freezing point 39 °F (4 °C)

Initial boiling point and boiling range 219 °F (104 °C)

Flash point Not Applicable

Evaporation rate Slower than Ether

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 18 mmHg

Vapor pressure temp. 70 °F (21 °C)

Vapor density < 1

Relative density 1.27

Relative density temperature 70 °F (21 °C)

Solubility(ies)

Solubility (water) 100 %

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 6 mPa.s

Viscosity temperature 70 °F (21 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	4.9 (5% Solution)
Pour point	45 °F (7 °C)
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. None under normal conditions.
Incompatible materials	Strong 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	No adverse effects due to skin contact are expected.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
BETZDEARBORN DCL30		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 5 mg/l, 4 hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 4000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium bisulphite (CAS 7631-90-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 5.5 mg/l, 4 Hour
Oral		
LD50	Rat	1420 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes eye 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 classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium bisulphite (CAS 7631-90-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

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
Aquatic			
Algae	EC50	Scenedesmus (algae)	154 mg/l, 72 hour (Estimated)
Crustacea	LC50	Daphnia magna	225 mg/l, 48 hour
		Mysid Shrimp	370 mg/l, 48 hour (pH adjusted)
	NOEL	Daphnia magna	160 mg/l, 48 hour
		Mysid Shrimp	156 mg/l, 48 hour (pH adjusted)
Fish	0% Mortality	Rainbow Trout	100 mg/l, 48 hour
	100% Mortality	Rainbow Trout	500 mg/l, 48 hour
	LC50	Fathead Minnow	225 mg/l, 96 hour
		Menidia beryllina (Silversides)	930 mg/l, 96 hour (pH adjusted)
	NOEL	Fathead Minnow	160 mg/l, 96 hour
		Menidia beryllina (Silversides)	156 mg/l, 96 hour (pH adjusted)

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

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

- COD (mgO2/g) 47,7

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (SODIUM BISULFITE), RQ(SODIUM BISULFITE)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Special precautions for user	Not available.
ERG number	171

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

DOT

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 bisulphite (CAS 7631-90-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

sulphur dioxide (CAS 7446-09-5)

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

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 147820
Category Code(s):
G5 Cooling and retort water treatment products
G6 Boiler treatment products, steam line products – food contact

US state regulations

California Proposition 65

WARNING: California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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

No ingredient listed.

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

sulphur dioxide (CAS 7446-09-5) Listed: July 29, 2011

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

No ingredient listed.

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

No ingredient listed.

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

Issue date Oct-16-2014

Revision date Feb-11-2023

Version # 3.1

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
ACGIH: American Conference of Governmental Industrial Hygienists
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
NFPA: National Fire Protection Association

References: No data available

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

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Prepared by	This SDS has been prepared by Veolia Water Technologies & Solutions' Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
SPECTRUS* NX1100

1. Identification

Product identifier **SPECTRUS NX1100**

Other means of identification None.

Recommended use Biocide

Recommended restrictions None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	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. Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Wear eye/face protection. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Wash hands thoroughly after handling. Keep only in original container. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage	Store 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
2-Bromo-2-nitropropane-1,3-diol (Bronopol)	52-51-7	2.5 - 10
Magnesium nitrate	10377-60-3	2.5 - 10
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	2.5 - 10
Magnesium chloride	7786-30-3	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. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Do not induce vomiting. Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. The dilution with water or milk is appropriate if there has been no vomiting (120 to 240 ml for adults, do not exceed 120 ml for children). If swallowed, assess endoscopy results. Contraindication: neutralization and activated Carbon. Symptomatic treatment.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In case of fire and/or explosion do not breathe fumes. Cool containers / tanks with water spray.
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 or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Prevent from entering sewers or the immediate environment.

7. Handling and storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Corrosive liquid. Do not breathe vapors or spray mist.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Keep container tightly closed in a dry and well-ventilated place. Store at temperatures below 35°C Use approved containers only. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Biological limit values

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

Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

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

Skin protection

Hand protection

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

Other

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

Respiratory protection

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

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Color

Colorless to yellow green

Physical state

Liquid

Odor

None

Odor threshold

Not available.

pH (concentrated product)	3
pH in aqueous solution	3.7 (5% SOL.)
Melting point/freezing point	24 °F (-4 °C)
Initial boiling point and boiling range	220 °F (104 °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	1.11
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	10 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	29 °F (-2 °C)
Specific gravity	1.107
VOC	0 %

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hydrogen bromide, bromine gas, hydrogen chloride, chlorine gas, oxides of carbon and nitrogen evolved in fire. Sulfur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Harmful if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.

Product	Species	Test Results
SPECTRUS NX1100 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 1 mg/l, 4 Hour
Oral		
LD50	Rat	1030 mg/kg

Components	Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)		
Acute		
Dermal		
LD50	Rat	1600 mg/kg
Inhalation		
LC50	Rat	> 0.59 mg/l, 4 Hour, (Aerosol toxicity)
Oral		
LD50	Rat	324 mg/kg
Magnesium chloride (CAS 7786-30-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Magnesium nitrate (CAS 10377-60-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5400 mg/kg
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (CAS 55965-84-9)		
Acute		
Dermal		
LD50	Rabbit	90 mg/kg
Inhalation		
LC50	Rat	0.33 mg/l, 4 Hour
Oral		
LD50	Rat	67 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin burns.

Serious eye damage/eye irritation Corrosive to eyes. Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
SPECTRUS NX1100 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Ceriodaphnia	4.7 mg/l, Static Renewal Bioassay, 48 hour
		Daphnia magna	5 mg/l, Static Renewal Bioassay, 48 hour
		Mysid Shrimp	40.5 mg/l, Static Renewal Bioassay, 48 hour
	NOEL	Ceriodaphnia	0.63 mg/l, Static Renewal Bioassay, 48 hour
		Daphnia magna	2.5 mg/l, Static Renewal Bioassay, 48 hour
		Mysid Shrimp	18 mg/l, Static Renewal Bioassay, 48 hour
Fish	LC50	Fathead Minnow	3.5 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	15.9 mg/l, Static Renewal Bioassay, 96 hour
		Rainbow Trout	7.2 mg/l, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	26.7 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Fathead Minnow	1.8 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	12.5 mg/l, Static Renewal Bioassay, 96 hour
		Rainbow Trout	3.1 mg/l, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	15.5 mg/l, Static Renewal Bioassay, 96 hour

Components		Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)			
	EC50	Daphnia Magna	1.4 mg/l, 48 hour
Aquatic			
Fish	LC50	Rainbow Trout	41 mg/l, 96 hour

Bioaccumulative potential Not bioaccumulating (Refers to active component) 2-Bromo-2-nitropropane-1,3-diol

Partition coefficient n-octanol / water (log Kow)

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	0.49

Mobility in soil No data available.

Other adverse effects	Nutrients: N = 8.03 mg/g
Persistence and degradability	
- COD (mgO2/g)	77
- BOD 5 (mgO2/g)	2 (calculated data)
- BOD 28 (mgO2/g)	4 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	2 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days)	8 (calculated data)
- TOC (mg C/g)	29 (calculated data)

13. Disposal considerations

Disposal instructions	Dispose of in approved pesticide facility or according to label instructions. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator.
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. D002= Corrosive
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Dispose of in approved pesticide facility or according to label instructions. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (2-BROMO-2-NITROPROPANE-1,3-DIOL, 5-Chloro-2-Methyl-4-Isothiazolin-3-One Mixture With 2-Methyl-4-Isothiazolin-3-One)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.
ERG number	153

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

IATA

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes
Special precautions for user	Not available.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	Not available.
Special precautions for user	Not available.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations

This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number. This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Magnesium nitrate	10377-60-3	2.5 - 10

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)

Sulphuric acid (CAS 7664-93-9)

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)	Hazardous substance
Safe Drinking Water Act (SDWA)	Not regulated.

Inventory status

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

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

FIFRA registration number	3876-151
TSCA	This is an EPA registered biocide and is exempt from TSCA inventory requirements.
FIFRA hazard statement	This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: DANGER Corrosive Causes irreversible eye damage Causes skin burns Harmful if swallowed or absorbed through the skin Harmful if inhaled Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals This pesticide is toxic to fish and aquatic organisms
Food and drug administration	21 CFR 176.300 & 176.170 (slimicides and as a preservative)
NSF Registered and/or meets USDA (according to 1998 guidelines):	Registration No. – 141064 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

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

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

Sulphuric acid (CAS 7664-93-9) Listed: March 14, 2003

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Jul-03-2014
Revision date	Aug-02-2019
Version #	1.1
NFPA ratings	Health: 3 Flammability: 0 Instability: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service Registration Number
ACGIH: American Conference of Governmental Industrial Hygienists
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References:

CNS 15030
UN Transportation Regulations Safety data sheets of raw materials.

Disclaimer

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

Revision information

Hazard(s) identification: Prevention
Hazard(s) identification: Response
Physical & Chemical Properties: Multiple Properties
GHS: Classification

Prepared by

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

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

ATTACHMENT I

LABORATORY SUMMARY

ATTACHMENT I

ANALYTICAL TESTING LABORATORY INFORMATION

Laboratory Name	ALS Houston	
Address	10450 Stancliff Rd, Suite 210, Houston, TX 77099	
Phone Number	281-530-5656	
Email	Andrew.Neir@ALSGlobal.com	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25	
Pollutants Analyzed	Table 1: • BOD (5-Day) • CBOD (5-Day) • Chemical oxygen demand • Total organic carbon • Ammonia nitrogen • Total suspended solids • Nitrate nitrogen • Total organic nitrogen • Total phosphorus • Oil and grease • Total residual chlorine • Total dissolved solids • Sulfate • Fluoride • Total alkalinity (mg/L as CaCo3)	Table 2: • Aluminum • Antimony • Arsenic • Barium • Beryllium • Cadmium • Chromium, total • Chromium, trivalent • Copper • Lead • Nickel • Selenium • Silver • Thallium • Zinc Table 6: • Bromide • Color • Nitrate-Nitrite • Sulfide • Sulfite • Surfactants • Boron • Cobalt • Iron • Magnesium • Manganese • Molybdenum • Tin • Titanium

Laboratory Name	ALS Houston	
Address	10450 Stancliff Rd, Suite 210, Houston, TX 77099	
Phone Number	281-530-5656	
Email	Andrew.Neir@ALSGlobal.com	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25	
Pollutants Analyzed	Table 8: • Acrolein • Acrylonitrile • Benzene • Bromoform • Carbon tetrachloride • Chlorobenzene • Chlorodibromomethane • Chloroethane • 2-Chloroethylvinyl ether • Chloroform • Dichlorobromomethane [Bromodichloromethane] • 1,1-Dichloroethane • 1,2-Dichloroethane • 1,1-Dichloroethylene [1,1-Dichloroethene] • 1,2-Dichloropropane • 1,3-Dichloropropylene [1,2-Dichloropropene] • Ethylbenzene • Methyl bromide [Bromomethane] • Methyl chloride [Chloromethane] • Methylene chloride [Dichloromethane] • 1,1,2,2-Tetrachloroethane • Tetrachloroethylene [Tetrachloroethene] • Toluene • 1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene] • 1,1,1-Trichlorethane • 1,1,2-Trichlorethane • Trichloroethylene [Trichloroethene] • Vinyl chloride	Table 9: • 2-Chlorophenol • 2,4-Dichlorophenol • 2,4-Dimethylphenol • 4,6-Dinitro-o-cresol • 2,4-Dinitrophenol • 2-Nitrophenol • 4-Nitrophenol • p-Chloro-m-cresol • Pentachlorophenol • Phenol • 2,4,6-Trichlorophenol

Laboratory Name	ALS Holland
Address	3352 128th Ave, Holland, Michigan, 49424
Phone Number	616-399-6070
Email	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25
Pollutants Analyzed	Table 2: • Mercury

Laboratory Name	Eurofins Lancaster Laboratory
Address	2425 New Holland Pike, Lancaster, PA 17601
Phone Number	717-556-7219
Email	Dana.Kauffman@et.eurofins.com
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25
Pollutants Analyzed	Table 2: • Cyanide, available

Laboratory Name	Pace Analytical
Address	12065 Lebanon Rd, Mount Juliet, Tennessee 37122
Phone Number	615-758-5858
Email	
Sample Dates	5/19/25, 5/26/25, 6/3/25, 6/10/25
Pollutants Analyzed	Table 2: • Chromium, hexavalent

Field Parameters by Applicant

- Total residual chlorine
- Temperature (°F)
- pH
- Dissolved Oxygen

ATTACHMENT J

LEASE AGREEMENT

AMENDED AND RESTATED SITE LEASE

LANDLORD:

CHENIERE LAND HOLDINGS, LLC,
a Delaware Limited Liability Company

TENANT:

GREGORY POWER PARTNERS LLC,
a Delaware Limited Liability Company

December 29, 2023

DocuSign Envelope ID: BF9F926E-1D91-441C-811A-EC3476A

IN WITNESS WHEREOF, Landlord and Tenant have caused this Lease to be executed the date first above written.

Tenant:

GREGORY POWER PARTNERS LLC,
a Delaware limited liability company

By: GREGORY POWER HOLDINGS LLC,
as sole member of GREGORY POWER PARTNERS LLC

By: Carlton Ellis
Name: Carlton Ellis
Title: Senior Vice President, Corporate Development and Strategy

Landlord:

CHENIERE LAND HOLDINGS, LLC,
a Delaware limited liability company

By: Carlton Ellis
Name: Carlton Ellis
Title: Senior Vice President, Corporate Development and Strategy

EXHIBIT A

Premises

[Attached hereto]

Legal Description of Main Premises

METES AND BOUNDS
DESCRIPTION OF A
10.828 ACRE TRACT

BEING a 10.828 acre tract out of that 1665.222 acre tract conveyed to Reynolds Metals Company March 21, 1951 and recorded in Volume 169, Page 48 of the Deed Records of San Patricio County, Texas said 10.828 acre tract being more particularly described as follows;

COMMENCING at a found concrete monument in the south right-of-way line of State Highway 361, said monument being south 115.98 feet from the northeast corner of the aforesaid 1665.222 acre tract;

THENCE, S 44°20'20" W 5,293.68 feet to the POINT OF BEGINNING, said point being the northwest corner of this 10.828 acre tract of land;

THENCE, with the perimeter of this 10.828 acre leasehold site,

S 89°55'50" E	374.00 feet to a point,
N 00°00'26" W	68.95 feet to a point,
N 89°59'34" E	56.00 feet to a point,
N 00°00'26" W	366.39 feet to a point,
N 74°07'42" E	77.45 feet to a point,
S 60°52'25" E	184.89 feet to a point,
S 00°00'26" E	18.20 feet to a point,
S 89°59'34" W	1.35 feet to a point,
S 00°00'26" E	192.00 feet to a point,
N 89°59'34" E	234.35 feet to a point,
S 00°00'26" E	156.00 feet to a point,
N 89°59'34"	126.00 feet to a point,
E S 00°00'26" E	278.33 feet to a point,
S 36°51'44"	33.33 feet to a point,
W S 56°18'10" W	36.06 feet to a point,
S 89°59'34" W	975.00 feet to a point,
N 00°00'26" W	325.20 feet to the POINT OF BEGINNING and containing 10.828 acres of land, more or less.

NOTE: ALL BEARINGS ARE BASED ON THE SOUTH RIGHT-OF-WAY LINE OF THE UNION PACIFIC RAILROAD BEARING S 59°34'00" E AS CALLED IN VOLUME 169, PAGE 48 OF THE DEED RECORDS OF SAN PATRICIO COUNTY, TEXAS.

Legal Description of Parking Lot

BEING A METES AND BOUNDS DESCRIPTION FOR A PARKING LOT, FOR A PLANT LOCATED IN THE THOMAS T. WILLIAMSON SURVEY, ABSTRACT NO. 290, SAN PATRICIO COUNTY, TEXAS, BEING A PORTION OF A CALLED 538.766 ACRE TRACT, CONVEYED TO CORPUS CHRISTI ALUMINA, LLC, RECORDED IN FILE NO. 664353, REAL PROPERTY RECORDS SAN PATRICIO COUNTY, TEXAS, SAID PARKING LOT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a calculated point within said 538.766 acre tract for the **POINT OF BEGINNING** of the metes and bounds described herein, from which a found 5/8" iron rod capped (RPLS 3589) bears N 30°04'55" E, a distance of 901.62 feet, marking a northeast corner of said 538.766 acre tract, said point also being an interior corner of a called 341.3 acre Tract No. 2, recorded in File No. 502130, Real Property Records San Patricio County, Texas.

THENCE, over and across said 538.766 acre tract, the following ten (10) courses and distances:

1) S 41°15'40" E, a distance of 198.76 feet to a calculated point,
2) S 00°32'32" E, a distance of 147.74 feet to a calculated point,
3) N 84°03'59" W, a distance of 23.33 feet to a calculated point,
4) N 50°20'06" W, a distance of 34.98 feet to a calculated point,
5) N 42°42'00" W, a distance of 55.54 feet to a calculated point,
6) N 42°34'59" W, a distance of 53.47 feet to a calculated point,
7) N 44°04'19" W, a distance of 54.78 feet to a calculated point,
8) N 47°32'10" W, a distance of 47.93 feet to a calculated point,
9) N 28°19'55" E, a distance of 14.69 feet to a calculated point,

THENCE, N 28°19'55" E, a distance of 122.21 feet to the **POINT OF BEGINNING** of herein described parking lot, containing 29,051 square feet or 0.67 acres, more or less.

Notes:

1) Bearings shown hereon are grid bearings of the Texas State Plane Coordinate System, South Zone (4205), NAD83, US Survey Feet. Distances shown hereon are grid.
2) Record information shown hereon has been provided by NRG. Owner name shown as provided. Record volume and page noted per vesting document provided.

04/22/19

S. Corey Shannon — Date
Registered Professional Land Surveyor
No. 5967 – State of Texas

Surveying and Mapping, LLC
11111 Katy Freeway, Suite 200
Houston, Texas 77079
TX. Firm Reg. No. 10064300

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☒ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 604378208		**RN 102547957**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	7/1/2025

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Gregory Power Partners, LLC	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
801846854	15419106305	541910630	158590716

11. Type of Customer:	☒ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☐ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	PO Box 36						
	City	Gregory	**State**	TX	**ZIP**	78359	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	Ray.Dube@calpine.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(830) 305-8429		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Gregory Power Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**
24. County	San Patricio						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	The facility is located approximately 1 mile southwest of the intersection of Texas State Highway 361 and Chemours Plant Road.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Gregory			TX	78374	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	27.878432		**28. Longitude (W) In Decimal:**	-97.257775	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911		22112	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Electrical power generation

34. Mailing Address:	**PO Box 36**						
	City	**Gregory**	**State**	**TX**	**ZIP**	**78359**	**ZIP + 4**
35. E-Mail Address:	**John.swinney@calpine.com**						

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(281) 615-1502		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☒ Industrial Hazardous Waste
				97396
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0005219000			

SECTION IV: Preparer Information

40. Name:	Nancy L. Koch	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 651-7104		**( )** -	nancy.koch@westonsolutions.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Gregory Power Partners, LLC	**Job Title:**	Plant Manager
Name *(In Print):*	John Swinney	**Phone:**	**(** 281 **)** 615- **1502**
Signature:		**Date:**	