Technical 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. Second notice (NAPD-Notice of Preliminary Decision)
   - English
   - Alternative Language (Spanish)
4. Application materials *
5. Draft permit *
6. Technical summary or fact sheet *

* **NOTE:** This application was declared Administratively Complete before June 1, 2024. The application materials, draft permit, and technical summary or fact sheet are available for review at the Public Viewing Location provided in the NAPD.

Portada de Paquete Técnico

Este archivo contiene los siguientes documentos:

1. Resumen de la solicitud (en lenguaje sencillo)
   - Inglés
   - Idioma alternativo (español)
2. Primer aviso (NORI, Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
   - Inglés
   - Idioma alternativo (español)
3. Segundo aviso (NAPD, Aviso de Decisión Preliminar)
   - Inglés
   - Idioma alternativo (español)
4. Materiales de la solicitud **
5. Proyecto de permiso **
6. Resumen técnico u hoja de datos **

** **NOTA:** Esta solicitud se declaró administrativamente completa antes del 1 de junio de 2024. Los materiales de la solicitud, el proyecto de permiso, y los resumen técnico u hoja de datos están disponibles para revisión en la ubicación de consulta pública que se indica en el NAPD.

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

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 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.

Enterprise Products Operating LLC (CN603211277) operates Enterprise Mont Belvieu Hatcherville Complex (RN109438028), a propane dehydrogenation, isobutane dehydrogenation, and natural gas liquids fractionation plant. The facility is located at 12901 Hatcherville Road and Farm-to-Market Road 1942 in the City of Baytown, Chambers County, Texas 77521.

The application is for a major amendment with renewal to discharge non-process area stormwater comingled with allowable non-stormwater wastestreams on an intermittent and flow-variable basis via Outfall 007; and requesting to increase the utility wastewater flow to a daily average flow not to exceed 600,000 gallons per day via Outfall 008.

The pollutants permitted from these discharges are total suspended solids, total organic carbon, and oil and grease. All process wastewater, first flush stormwater, and other potentially contaminated stormwater are routed to and treated by the Propane Dehydrogenation Unit (PDH) wastewater treatment plant covered under TPDES permit no. WQ0005014000. Domestic wastewater will be sent to the City of Mont Belvieu Cotton Bayou Wastewater Treatment facility POTW for treatment and permitted discharge.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

Enterprise Products Operating LLC (CN603211277) opera Enterprise Mont Belvieu Hatcherville Complex (RN109438028), una planta de deshidrogenación de propano, deshidrogenación de isobutano y fraccionamiento de líquidos de gas natural. La instalación está ubicada en 12901 Hatcherville Road y Farm-to-Market Road 1942 en la ciudad de Baytown, condado de Chambers, Texas 77521.

La solicitud es para una enmienda importante con renovación para descargar aguas pluviales que no pertenecen al área de proceso combinadas con corrientes residuales permitidas que no son aguas pluviales de forma intermitente y de flujo variable a través del Desagüe 007; y solicitar aumentar el flujo de aguas residuales de los servicios públicos a un flujo promedio diario que no exceda los 600,000 galones por día a través del Desagüe 008.

Los contaminantes permitidos de estas descargas son sólidos suspendidos totales, carbono orgánico total y aceites y grasas. Todas las aguas residuales de proceso, las aguas pluviales de primera descarga y otras aguas pluviales potencialmente contaminadas se dirigen y tratan en la planta de tratamiento de aguas residuales de la Unidad de deshidrogenación de propano (PDH) cubierta por el permiso TPDES no. WQ0005014000. Las aguas residuales domésticas se enviarán a la instalación de tratamiento de aguas residuales de Cotton Bayou de la ciudad de Mont Belvieu, POTW, para su tratamiento y descarga permitida.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0005267000

APPLICATION. Enterprise Products Operating LLC, P.O. Box 4324, Houston, Texas 77210, which owns a propane dehydrogenation, isobutane dehydrogenation, and natural gas liquids fractionation plant, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005267000 (EPA I.D. No. TX0139076) to authorize an increase to the discharge of treated wastewater to a volume not to exceed a daily average flow of 600,000 gallons per day via Outfall 008. The facility is located at 12901 Hatcherville Road, near the city of Baytown and Mont Belvieu, in Chambers County, Texas 77521. The discharge route is from the plant site to a series of unnamed ditches, thence to Cedar Bayou Above Tidal. TCEQ received this application on March 26, 2024. The permit application will be available for viewing and copying at Sam and Carmena Goss Memorial Branch Library, 1 John Hall Drive, Mont Belvieu, in Chambers County, Texas prior to the date this notice is published in the newspaper. 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=-94.9225,29.870277&level=18

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices.

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.**

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 Enterprise Products Operating LLC at the address stated above or by calling Mr. Daniel Bissonnette, Supervisor, Environmental Permitting, at 713-381-3669.

Issuance Date: April 24, 2024

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECEPCIÓN DE LA SOLICITUD Y
LA INTENCIÓN DE OBTENER CALIDAD DEL AGUA PERMISO
MODIFICACION

PERMISO NO. WQ0005267000

SOLICITUD. Enterprise Products Operating LLC, P.O. Box 4324, Houston, Texas 77210, que posee una planta de deshidrogenación de propano, deshidrogenación de isobutano y fraccionamiento de líquidos de gas natural, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) modificar el Permiso No. WQ0005267000 (EPA I.D. No. TX0139076) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar un aumento en la descarga de aguas residuales tratadas a un volumen que no exceda un flujo promedio diario de 600,000 galones por día a través del Emisario 008. La planta está ubicada 12901 Hatcherville Road, cerca de las ciudades de Baytown y Mont Belvieue en el Condado de Chambers, Texas 77521. La ruta de descarga es del sitio de la planta a una serie de zanjas sin nombre, de allí a Cedar Bayou Above Tidal. La TCEQ recibió esta solicitud el 26 de marzo de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Sam and Carmena Goss Memorial Branch Library, 1 John Hall Drive, Mont Belvieu, en el Condado de Chambers, Texas antes de la fecha de publicación de este aviso en el periódico. 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=-94.9225,29.870277&level=18

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.

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. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el 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 envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

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 Enterprise Products Operating LLC a la dirección indicada arriba o llamando a Mr. Daniel Bissonnette, Supervisor, Environmental Permitting, al 713-381-3669.

Fecha de emisión 24 de abril de 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR INDUSTRIAL WASTEWATER

AMENDMENT

Permit No. WQ0005267000

APPLICATION AND PRELIMINARY DECISION. Enterprise Products Operating LLC, P.O. Box 4324, Houston, Texas 77210, which operates Mont Belvieu Hatcherville Complex, a propane dehydrogenation, isobutane dehydrogenation, and natural gas liquids fractionation plant, has applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005267000 to increase utility wastewater daily average flow rate from 400,000 gallons per day (gpd) to 600,000 gpd and an increase of the daily maximum flow rate from 600,000 gpd to 900,000 gpd via Outfall 008. The draft permit authorizes the discharge of stormwater commingled with allowable non-stormwater waste-streams, post first-flush stormwater from curbed areas, and stormwater from paved/unpaved areas associated with the Propane Dehydrogenation Unit II on an intermittent and flow-variable basis via Outfall 007; and utility wastewtaer at a daily average flow not to exceed 600,000 gpd via Outfall 008. The TCEQ received this application on March 26, 2024.

The facility is located at 12901 Hatcherville Road, in the City of Baytown, Chambers County, Texas 77521. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.9225,29.870277&level=18

The effluent is discharged to a series of unnamed ditches, thence to Cedar Bayou Above Tidal in Segment No. 0902 of the Trinity-San Jacinto Coastal Basin. The unclassified receiving water uses are minimal aquatic life use for the unnamed ditches. The designated uses for Segment No. 0902 are primary contact recreation and high aquatic life use.

In accordance with Title 30 Texas Administrative Code Section 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Cedar Bayou Above Tidal, which has been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Sam and Carmena Goss Memorial Branch Library, 1 John Hall Drive, Mont Belvieu, in Chambers County, Texas. 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

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.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit written or oral comment or to ask questions about the application. Generally, the 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 public comments, the Executive Director will consider the comments and prepare a response to all relevant and material, or significant public comments. **The response to comments, along with the Executive Director's decision on the application, will be mailed to everyone who submitted public comments or who requested to be on a mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a 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.**

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or a timely request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and requests to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

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

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at https://www.tceq.texas.gov/goto/comment **within 30 days from the date of newspaper publication of this notice.**

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at https://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. Public comments and requests must be submitted either electronically at https://www.tceq.texas.gov/goto/comment, 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 https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Enterprise Products Operating LLC at the address stated above or by calling Mr. Daniel Bissonnette, Supervisor, Environmental Permitting, at 713-381-3669.

Issued: October 8, 2024

Comisión De Calidad Ambiental Del Estado De Texas

AVISO DE LA SOLICITUD Y DECISIÓN PRELIMINAR PARA EL PERMISO DEL SISTEMA DE ELIMINACION DE DESCARGAS DE CONTAMINANTES DE TEXAS (TPDES) PARA AGUAS RESIDUALES INDUSTRIALES

MODIFICACIÓN

PERMISO NO. WQ0005267000

SOLICITUD Y DECISIÓN PRELIMINAR. Enterprise Products Operating LLC, P.O. Box 4324, Houston, Texas 77210 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) un modificación principal para autorizar *un aumento del caudal promedio diario de aguas residuales de servicios públicos de 400,000 galones por día (gpd) a 600,000 gpd y un aumento del caudal máximo diario de 600,000 gpd a 900,000 gpd a través del Emisario 008. El borrador del permiso autoriza la descarga de aguas pluviales mezcladas con aguas no permitidas, corrientes residuales de aguas pluviales, aguas pluviales posteriores a la primera descarga de áreas restringidas y aguas pluviales de áreas pavimentadas/no pavimentadas asociadas con la Propane Dehydrogenation Unit II de forma intermitente y de flujo variable a través del Emisario 007; y aguas residuales de servicios públicos con un flujo promedio diario que no exceda los 600,000 gpd a través del Emisario 008.* La TCEQ recibió esta solicitud el 26 de marzo de 2024.

La planta está ubicada en 12901 Hatcherville Road en el Condado de Chambers, Texas. El efluente tratado es descargado al una serie de zanjas sin nombre, desde allí hasta Cedar Bayou Above Tidal en el Segmento No. 0902 de la Cuenca del Río Trinity-San Jacinto Coastal Basin. Los usos no clasificados de las aguas receptoras son limitados usos de la vida acuática para las acequias sin nombre. Los usos designados para el Segmento No. 0902 son elevados de vida acuática y recreación.

De acuerdo con la 30 TAC §307.5 y los procedimientos de implementación de la TCEQ (Enero 2010) para las Normas de Calidad de Aguas Superficiales en Texas, fue realizada una revisión de la antidegradación de las aguas recibidas. Una revisión de antidegradación del Nivel 1 ha determinado preliminarmente que los usos de la calidad del agua existente no serán perjudicados por la acción de este permiso. Se mantendrá un criterio narrativo y numérico para proteger los usos existentes. Una revisión del Nivel 2 ha determinado preliminarmente que no se espera ninguna degradación significativa en Cedar Bayou Above Tidal, el cual se ha identificado que tiene altos usos en la vida acuática. Los usos existentes serán mantenidos y protegidos. La determinación preliminar puede ser reexaminada y puede ser modificada, si se recibe alguna información nueva.

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en Sam and Carmena Goss Memorial Branch Library, 1 John Hall Drive, Mont Belvieu, en el condado de Chambers, Texas. 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=-94.9225,29.870277&level=18

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices.

COMENTARIO PUBLICO / REUNION PUBLICA. 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.

ACCIÓN DEL DIRECTOR EJECUTIVO. El Director Ejecutivo puede emitir una aprobación final de la solicitud a menos que exista un pedido antes del plazo de vencimiento de una audiencia administrativa de lo contencioso o se ha presentado un pedido de reconsideración. Si un pedido ha llegado antes del plazo de vencimiento de la audiencia o el pedido de reconsideración ha sido presentado, el Director Ejecutivo no emitirá una aprobación final sobre el permiso y enviará la solicitud y el pedido a los Comisionados de la TECQ para consideración en una reunión programada de la Comisión.

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. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el 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 envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

Todos los comentarios escritos del público y los pedidos una reunión deben ser presentados durante los 30 días después de la publicación del aviso a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or por el internet a www.tceq.texas.gov/about/comments.html. 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.

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Los comentarios y solicitudes públicas deben enviarse electrónicamente a https://www14.tceq.texas.gov/epic/eComment/, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Cualquier información personal que envíe a al TCEQ pasará a formar parte del registro de la agencia; esto incluye las direcciones de correo electrónico. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en www.tceq.texas.gov/goto/pep. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Enterprise Products Operating LLC a la dirección indicada arriba o llamando a Mr. Daniel Bissonnette, Supervisor, Environmental Permitting al 713-381-3669.

Fecha de emission: 8 de octubre de 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

TPDES PERMIT NO.
WQ0005267000
[For TCEQ office use only - EPA I.D. No. TX0139076]

This major amendment replaces TPDES Permit No. WQ0005267000, issued on November 29, 2021.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Enterprise Products Operating LLC

whose mailing address is

P.O. Box 4324
Houston, Texas 77210

is authorized to treat and discharge wastes from Mont Belvieu Hatcherville Complex, a propane dehydrogenation, isobutane dehydrogenation, and natural gas liquids fractionation plant (SIC 2869 and 1321)

located at 12901 Hatcherville Road, in the City of Baytown, Chambers County, Texas 77521

to a series of unnamed ditches, thence to Cedar Bayou Above Tidal in Segment No. 0902 of the Trinity-San Jacinto Coastal Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, five years from the date of permit issuance.

ISSUED DATE:

_____
For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS Outfall Number 007

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge stormwater commingled with allowable non-stormwater waste-streams [1], post first-flush stormwater from curbed areas, and stormwater from paved/unpaved areas associated with the Propane Dehydrogenation Unit II subject to the following effluent limitations:

   Volume: intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report (MGD)	Report (MGD)	N/A	1/week [2]	Estimate
Total Organic Carbon	N/A	75	75	1/week [2]	Grab
Oil and Grease	N/A	15	15	1/week [2]	Grab

2. The pH must not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day, by grab sample, when discharge occurs.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: Outfall 007, at the south end of the facility prior to entering the unnamed ditch.

[1] See Other Requirement No. 3 for additional information regarding the defined sources.
[2] When discharge occurs.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 008

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge utility wastewater [1] subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 0.60 MGD. The daily maximum flow shall not exceed 0.90 MGD.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	0.60 MGD	0.90 MGD	N/A	1/day	Instantaneous
Total Suspended Solids	30	100	100	2/week	Grab
Oil and Grease	15	20	20	1/week	Grab
Total Dissolved Solids [2]	Report	Report	N/A	1/week	Grab
Chloride [2]	Report	Report	N/A	1/week	Grab
Sulfate [2]	Report	Report	N/A	1/week	Grab
Total Dissolved Solids [3]	1142	2416	2416	1/week	Grab
Sulfate [3]	280	593	593	1/week	Grab
Total Zinc [4]	Report	Report	N/A	1/week	Grab
Total Zinc [5]	0.262	0.555	0.555	1/week	Grab

2. The pH must not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: Outfall 008, at the south end of the facility at a point prior to discharging to the unnamed ditch.

[1] Frac Units generating utility wastewaters include, but are not limited to, Frac Units X-XIV. Utility wastewaters include, but are not limited to, the following: Wet Surface Air Cooler blowdown (reflux and condensate); water treatment wastes; boiler blowdown; demineralizer neutralization tank effluent; neutralized wastewaters from acid/caustic sumps; air conditioner condensate; compressor condensate; steam condensate; hydrostatic tests waters (from vessels or pipelines not previously in service); and waterline and fire protection system leaks, tests, and flushings performed during maintenance events.
[2] Starting on the date of issuance of the permit and lasting for 364 days.
[3] Starting one-years after the issuance of the permit and last through the expiration of the permit.
[4] Starting on the date of issuance of the permit and lasting for two-years and 364 days.
[5] Starting three-years after the issuance of the permit and last through the expiration of the permit.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Texas Water Code §26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

    a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder, and limited to major domestic wastewater discharge facilities with a one million gallons per day or greater permitted flow.

    b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

    c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

    d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

    e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.

    f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

    a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.

        i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

        ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

    b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

    c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

    d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total

mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

e. Bacteria concentration (Fecal coliform, *E. coli*, or Enterococci) – the number of colonies of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substitute value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD × Concentration, mg/L × 8.34).

g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(c).

b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.

6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act; TWC Chapters 26, 27, and 28; and THSC Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

   a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.

   b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR §264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

   c. Records of monitoring activities shall include the following:

      i. date, time, and place of sample or measurement;
      ii. identity of individual who collected the sample or made the measurement;
      iii. date and time of analysis;
      iv. identity of the individual and laboratory who performed the analysis;
      v. the technique or method of analysis; and
      vi. the results of the analysis or measurement and quality assurance/quality control records.

      The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

   All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

   Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the regional office and the Enforcement Division (MC 224).

7. Noncompliance Notification

   a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the regional office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the regional office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective September 1, 2020, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
      i. unauthorized discharges as defined in Permit Condition 2(g).
      ii. any unanticipated bypass that exceeds any effluent limitation in the permit.
      iii. violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

   c. In addition to the above, any effluent violation that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the regional office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

   d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

8. In accordance with the procedures described in 30 TAC §§35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

   All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the regional office, orally or by facsimile transmission within 24 hours, and both the regional office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

   a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) that is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
      i. one hundred micrograms per liter (100 µg/L);
      ii. two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      iii. five (5) times the maximum concentration value reported for that pollutant in the permit application; or
      iv. the level established by the TCEQ.

b. That any activity has occurred or will occur that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. five hundred micrograms per liter (500 μg/L);
ii. one milligram per liter (1 mg/L) for antimony;
iii. ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
iv. the level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

a. any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA §301 or §306 if it were directly discharging those pollutants;

b. any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

c. for the purpose of this paragraph, adequate notice shall include information on:

i. the quality and quantity of effluent introduced into the POTW; and
ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

i. violation of any terms or conditions of this permit;
ii. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending, or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment,

revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.

c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.

e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§305.62 and 305.66 and TWC §7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

h. In accordance with 30 TAC §305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility that does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.

i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA §402, or any requirement imposed in a pretreatment program approved under the CWA §§402(a)(3) or 402(b)(8).

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC Chapter 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit, or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC §7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment or Renewal

   a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

      i. the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC §305.534 (relating to New Sources and New Dischargers); or

      ii. the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or

      iii. the alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

   c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.

   d. Prior to accepting or generating wastes that are not described in the permit application or that would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

   e. In accordance with the TWC §26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA §307(a) for a toxic pollutant that is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA §307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

   b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

   Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Texas Water Code Chapter 11.

8. Property Rights

   A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

   The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

    The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

    a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

       i. the permittee;
       ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
       iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.

    b. This notification must indicate:

       i. the name of the permittee;
       ii. the permit number(s);
       iii. the bankruptcy court in which the petition for bankruptcy was filed; and
       iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.

   b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §7.302(b)(6).

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion or upgrading of the domestic wastewater treatment or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.

11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:

a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

e. The term “industrial solid waste management unit” means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

i. volume of waste and date(s) generated from treatment process;
ii. volume of waste disposed of on-site or shipped off-site;
iii. date(s) of disposal;

iv. identity of hauler or transporter;
v. location of disposal site; and
vi. method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

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OTHER REQUIREMENTS

1. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 12 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five working days to TCEQ Region 12 and Compliance Monitoring Team (MC 224):

Pollutant	MAL[1] (mg/L)
Zinc (Total)	0.005

Test methods used must be sensitive enough to demonstrate compliance with the permit effluent limitations. If an effluent limit for a pollutant is less than the MAL, then the test method for that pollutant must be sensitive enough to demonstrate compliance at the MAL. Permit compliance/noncompliance determinations will be based on the effluent limitations contained in this permit, with consideration given to the MAL for the pollutants specified above.

When an analysis of an effluent sample for a pollutant listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero shall be used for that measurement when making calculations for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When a reported value is zero based on this MAL provision, the permittee shall submit the following statement with the self-reporting form either as a separate attachment to the form or as a statement in the comments section of the form:

> "The reported value(s) of zero for [list pollutant(s)] on the self-reporting form for [monitoring period date range] is based on the following conditions: (1) the analytical method used had a method detection level as sensitive as the MAL specified in the permit, and (2) the analytical results contained no detectable levels above the specified MAL."

When an analysis of an effluent sample for a pollutant indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that pollutant, the level of detection achieved shall be used for that measurement when making calculations for the self-reporting form. A zero may not be used.

2. COOLING WATER INTAKE STRUCTURE REQUIREMENTS

The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and the Region 12 Office of any change in the method by which the facility obtains water for cooling purposes. This notification must be submitted 30 days prior to any such change and must include a description of the planned changes. The TCEQ may, upon review of the notification, reopen the permit to include additional terms and conditions as necessary.

3. ALLOWABLE NON-STORMWATER DISCHARGES

Discharges via Outfall 007 may include any combination of the following non-stormwater sources:
- discharges from emergency firefighting activities and uncontaminated fire hydrant flushings (excluding discharges of hyper-chlorinated water);
- potable water sources (excluding discharges of hyper-chlorinated water);
- irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;

[1] Minimum analytical level.

- water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
- water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
- uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
- uncontaminated water from foundation or footing drains;
- uncontaminated water used for dust suppression;
- water from springs and other uncontaminated groundwater;
- incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower, including cooling tower blowdown; and
- hydrostatic test water from equipment, piping, or vessels not previously in hydrocarbon service.

4. There is no mixing zone established for discharges to an intermittent stream. Acute toxic criteria apply at the point of discharge.

5. POND REQUIREMENTS

A wastewater pond must comply with the following requirements. A *wastewater pond (or lagoon)* is an earthen structure used to evaporate, hold, store, or treat water that contains a *waste* or *pollutant* or that would cause *pollution* upon *discharge* as those terms are defined in Texas Water Code § 26.001, but does not include a pond that contains only *stormwater*.

A. An **existing** wastewater pond must be maintained to meet or exceed the original approved design and liner requirements; or, in the absence of original approved requirements, must be maintained to prevent unauthorized discharge of wastewater into or adjacent to water in the state. The permittee shall maintain copies of all liner construction and testing documents at the facility or in a reasonably accessible location and make the information available to the executive director upon request.

B. A **new** wastewater pond constructed after the issuance date of this permit must be lined in compliance with one of the following requirements if it will contain process wastewater as defined in 40 CFR §122.2. The executive director will review ponds that will contain only non-process wastewater on a case-by case basis to determine whether the pond must be lined. If a pond will contain only non-process wastewater, the owner shall notify the Industrial Permits Team (MC 148) to obtain a written determination at least 90 days before the pond is placed into service. The permittee must submit all information about the proposed pond contents that is reasonably necessary for the executive director to make a determination. If the executive director determines that a pond does not need to be lined, then the pond is exempt from B1 through B3 and C through F of POND REQUIREMENTS. A wastewater pond that only contains domestic wastewater must comply with the design requirements in 30 TAC Chapter 217 and 30 TAC §309.13(d) in lieu of items B1 through B3 of this subparagraph.

(1) Soil liner: The soil liner must contain clay-rich soil material (at least 30% of the liner material passing through a #200 mesh sieve, liquid limit greater than or equal to 30, and plasticity index greater than or equal to 15) that completely covers the sides and bottom of the pond. The liner must be at least 3.0 feet thick. The liner material must be compacted in lifts of no more than 8 inches to 95% standard proctor density at the optimum moisture content in accordance with ASTM D698 to achieve a permeability less than or equal to 1×10^{-7} (≤ 0.0000001) cm/sec. For in-situ soil material that meets the permeability

requirement, the material must be scarified at least 8 inches deep and then re-compacted to finished grade.

(2) Synthetic membrane: The liner must be a synthetic membrane liner at least 40 mils in thickness that completely covers the sides and the bottom of the pond. The liner material used must be compatible with the wastewater and be resistant to degradation (e.g., from ultraviolet light, chemical reactions, wave action, erosion, etc.). The liner material must be installed and maintained in accordance with the manufacturer's guidelines. A wastewater pond with a synthetic membrane liner must include an underdrain with a leak detection and collection system.

(3) Alternate liner: The permittee shall submit plans signed and sealed by a Texas-licensed professional engineer for any other equivalently-protective pond lining method to the TCEQ Industrial Permits Team (MC-148).

C. For a pond that must be lined according to subparagraph B (including ponds with in-situ soil liners), the permittee shall provide certification, signed and sealed by a Texas-licensed professional engineer, stating that the completed pond lining and any required underdrain with leak detection and collection system for the pond meet the requirements in subparagraph B1 - B3 before using the pond. The certification shall include the following minimum details about the pond lining system: (1) pond liner type (in-situ soil, amended in-situ soil, imported soil, synthetic membrane, or alternative), (2) materials used, (3) thickness of materials, and (4) either permeability test results or a leak detection and collection system description, as applicable.

The certification must be provided to the TCEQ Water Quality Assessment Team (MC-150), Industrial Permits Team (MC-148), Compliance Monitoring Section (MC-224), and TCEQ Regional Office. A copy of the liner certification and construction details (i.e., as-built drawings, construction QA/QC documentation, and post construction testing) must be kept on-site or in a reasonably accessible location (in either hardcopy or digital format) until the pond is closed.

D. Protection and maintenance requirements for a pond subject to subparagraph A or B (including ponds with in-situ soil liners).

(1) The permittee shall maintain a liner to prevent the unauthorized discharge of wastewater into or adjacent to water in the state.

(2) A liner must be protected from damage caused by animals. Fences or other protective devices or measures may be used to satisfy this requirement.

(3) The permittee shall maintain the structural integrity of the liner and shall keep the liner and embankment free of woody vegetation, animal burrows, and excessive erosion.

(4) The permittee shall inspect each pond liner and each leak detection system at least once per month. Evidence of damage or unauthorized discharge must be evaluated by a Texas licensed professional engineer or Texas licensed professional geoscientist within 30 days. The permittee is not required to drain an operating pond or to inspect below the waterline during these routine inspections.

a. A Texas licensed professional engineer or Texas licensed professional geoscientist must evaluate damage to a pond liner, including evidence of an unauthorized discharge without visible damage.

b. Pond liner damage must be repaired at the recommendation of a Texas licensed professional engineer or Texas licensed professional geoscientist. If the damage is significant or could result in unauthorized discharge, then the repair must be documented and certified by a Texas licensed professional engineer. Within 60 days after a repair is completed, liner certification must be provided to the TCEQ Water Quality Assessment Team (MC-150), Compliance Monitoring Section (MC-224), and TCEQ Regional Office. A copy of the liner certification must be maintained at the facility or in a reasonably accessible location and made available to the executive director upon request.

c. A release determination and subsequent corrective action will be based on 40 CFR Part 257 or the Texas Risk Reduction Program (30 TAC Chapter 350), as applicable. If evidence indicates that an unauthorized discharge occurred, including evidence that the actual permeability exceeds the design permeability, the matter may also be referred to the TCEQ Enforcement Division to ensure the protection of the public and the environment.

E. For a pond subject to subparagraph A or B (including ponds with in-situ soil liners), the permittee shall have a Texas licensed professional engineer perform an evaluation of each pond that requires a liner at least once every five years. The evaluation must include: (1) a physical inspection of the pond liner to check for structural integrity, damage, and evidence of leaking; (2) a review of the liner documentation for the pond; and (3) a review of all documentation related to liner repair and maintenance performed since the last evaluation. For the purposes of this evaluation, evidence of leaking also includes evidence that the actual permeability exceeds the design permeability. The permittee is not required to drain an operating pond or to inspect below the waterline during the evaluation. A copy of the engineer's evaluation report must be maintained at the facility or in a reasonably accessible location and made available to the executive director upon request.

F. For a pond subject to subparagraph A or B (including ponds with in-situ soil liners), the permittee shall maintain at least 2.0 feet of freeboard in the pond except when:

(1) the freeboard requirement temporarily cannot be maintained due to a large storm event that requires the additional retention capacity to be used for a limited period of time;

(2) the freeboard requirement temporarily cannot be maintained due to upset plant conditions that require the additional retention capacity to be used for treatment for a limited period of time; or

(3) the pond was not required to have at least 2.0 feet of freeboard according to the requirements at the time of construction.

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant:	Enterprise Products Operating LLC; Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005267000 (EPA I.D. No. TX0139076)
Regulated activity:	Industrial wastewater permit
Type of application:	Major amendment with renewal
Request:	Major amendment with renewal to an increase in utility wastewater daily average flow rate from 0.40 to 0.60 MGD and an increase of the daily maximum flow rate from 0.6 to 0.9 MGD via Outfall 008
Authority:	Federal Clean Water Act (CWA) §402; Texas Water Code (TWC) §26.027; 30 Texas Administrative Code (TAC) Chapter 305, Subchapters C-F, and Chapters 307 and 319; commission policies; and Environmental Protection Agency (EPA) guidelines

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight, five years from the date of permit issuance according to the requirements of 30 TAC §305.127(1)(C)(i).

REASON FOR PROJECT PROPOSED

The applicant applied to the Texas Commission on Environmental Quality (TCEQ) for an amendment of its existing permit. The proposed amendment would authorize an increase in utility wastewater daily average flow rate from 0.40 to 0.60 MGD and an increase of the daily maximum flow rate from 0.6 to 0.9 MGD via Outfall 008.

PROJECT DESCRIPTION AND LOCATION

The applicant currently operates Mont Belvieu Hatcherville Complex, a propane dehydrogenation, isobutane dehydrogenation, and natural gas liquids fractionation plant. The industrial activities at the Complex falls within Standard Industrial Codes (SIC) 2869 and 1321.

The Complex has authorization to discharge under multiple TPDES Permits: TPDES Permit No. WQ0005014000, TPDES Permit No. WQ0005311000, and TPDES Permit No. WQ0005267000. The process wastewater and first flush potentially contaminated stormwater from curbed areas within the processing units will be combined for treatment in a single wastewater treatment system. The treated effluent from that wastewater treatment system is managed and discharged under TPDES Permit No. WQ0005014000. This permit authorizes the discharge of utility wastewater from fractionation units via Outfall 008 and stormwater from fractionation units, Deisobutanizer (DIB) Units, Isomerization (ISOM) Unit, and the Propane Dehydrogenation (PDH) II Unit via Outfall 007.

Utility flows primarily consisting of Wet Surface Area Coolers (WSAC) blowdown and neutralized wastewaters from acid/caustic sumps will be routed to the Frac Treated Water Sump and will be provided with dechlorination and pH adjustment capacity prior to discharging via Outfall 008.

The facility is located at 12901 Hatcherville Road, in the City of Baytown, Chambers County, Texas 77521.

Discharge Route and Designated Uses
The effluent is discharged to a series of unnamed ditches, thence to Cedar Bayou Above Tidal in Segment No. 0902 of the Trinity-San Jacinto Coastal Basin. The unclassified receiving water uses are minimal aquatic life use for the unnamed ditches. The designated uses for Segment No. 0902 are primary contact recreation and high aquatic life use. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions.

Antidegradation Review
In accordance with 30 TAC §307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Cedar Bayou Above Tidal, which has been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review
The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the TPDES program (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and the EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS's biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Impaired Water Bodies
Segment No. 0902 is currently listed on the state's inventory of impaired and threatened waters, the 2022 CWA §303(d) list. The listing is for bacteria in water and depressed dissolved oxygen from a point 2.2 km (1.4 mi) upstream of IH 10 in Chambers/Harris County to a point 7.4 km (4.6 mi) upstream of FM 1960 in Liberty County (AU 0902_01). This discharge is into a tributary that enters the dissolved oxygen-impaired portion of Cedar Bayou Above Tidal. However, due to the intermittent nature (Outfall 007) and low concentrations of oxygen-demanding constituents expected in the discharge, this application will not represent an increase in the permitted levels of oxygen-demanding constituents to Segment 0902. The permit does not allow the discharge of domestic wastewater and there are no other sources of bacteria from other wastestreams discharged from this facility.

Completed Total Maximum Daily Loads (TMDLs)
There are no completed TMDLs for Segment No. 0902.

Dissolved Oxygen
Per the Interoffice Memorandum dated May 23, 2024 (Modelling Memo), due to the low levels of oxygen-demanding constituents expected from these type of waste streams, no significant dissolved oxygen depletion is anticipated in the receiving waters as a result of this discharge.

SUMMARY OF EFFLUENT DATA

The following is a quantitative description of the discharge described in the monthly effluent report data for the period April 2019 through March 2024. The "Avg of Daily Avg" values presented in the following table are the average of all daily average values for the reporting period for each pollutant. The "Max of Daily Max" values presented in the following table are the individual maximum values for the reporting period for each pollutant. Flows are expressed in million gallons per day (MGD). All pH values are expressed in standard units (SU).

Flow

Outfall	Frequency	Avg of Daily Avg, MGD	Max of Daily Max, MGD
007	Intermittent	0.839	3.01
008	Continuous	0.132	0.40

Effluent Characteristics

Outfall	Pollutant	Avg of Daily Avg	Max of Daily Max
		mg/L	mg/L
007	Total Organic Carbon (TOC)	N/A	38
	Oil and Grease	N/A	5.0
	pH	6.4 SU, minimum	9.6 SU
008	Total Suspended Solids (TSS)	15.9	103
	Oil and Grease	5.03	11.3
	pH	6.9 SU, minimum	9.0 SU

Effluent limit violations documented in the monthly effluent reports are summarized in the following table.

Effluent Limitation Violations

Outfall	Pollutant (units)	Report Date	Daily Average		Daily Maximum	
			Limit	Reported	Limit	Reported
007	pH (SU)	8/2020			9.0	9.6
008	TSS	9/2020	30	65	100	101
		3/2022		34.7		103
		1/2024		34.2		-
		2/2024		41.2		-

The draft permit was not changed to address these effluent limit violations because the infrequent nature of the exceedances.

DRAFT PERMIT CONDITIONS

The draft permit authorizes the discharge of stormwater commingled with allowable non-stormwater wastestreams and post first-flush stormwater from curbed areas, paved/unpaved areas associated with the PDH Unit II on an intermittent and flow-variable basis via Outfall 007; and utility wastewater at a daily average flow not to exceed 0.60 MGD via Outfall 008.

Effluent limitations are established in the draft permit as follows:

Outfall	***Pollutant***	***Daily Average***	***Daily Maximum***
007	Flow	Report (MGD)	Report (MGD)
007	Total Organic Carbon	N/A	75 mg/L
	Oil and Grease	N/A	15 mg/L

Outfall	*Pollutant*	*Daily Average*	*Daily Maximum*
	pH	6.0 SU, minimum	9.0 SU
008	Flow	0.60 MGD	0.90 MGD
	Total Suspended Solids	30 mg/L	100 mg/L
	Oil and Grease	15 mg/L	20 mg/L
	Total Zinc [1]	Report	Report
	Total Zinc [2]	0.262 mg/L	0.555 mg/L
	pH	6.0 SU, minimum	9.0 SU

OUTFALL LOCATIONS

Outfall	Latitude	Longitude
007	29.866619 N	94.932899 W
008	29.86616 N	94.932925 W

Technology-Based Effluent Limitations
Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines. There are no applicable categorical guidelines for the discharges from this facility via Outfalls 007 or 008. All existing technology-based effluent limitations at Outfalls 007 and 008 are based on BPJ and are carried forward in the draft permit in accordance with antibacksliding regulations in 40 CFR §122.44(l).

Water Quality-Based Effluent Limitations
Calculations of water quality-based effluent limitations for the protection of aquatic life and human health are presented in Appendix A. Aquatic life criteria established in Table 1 and human health criteria established in Table 2 of 30 TAC Chapter 307 are incorporated into the calculations, as are recommendations in the Water Quality Assessment Team's memorandum dated May 9, 2024. TCEQ practice for determining significant potential is to compare the reported analytical data from the facility against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

Stormwater commingled with allowable non-stormwater waste-streams, post first-flush stormwater from curbed areas, and stormwater from paved/unpaved areas associated with the Propane Dehydrogenation Unit II are authorized to discharge via Outfall 007. Typically, critical conditions are not developed for stormwater runoff outfalls, as this is standard TCEQ practice. Therefore, no water quality criteria screening was performed for these outfalls.

Data reported in the application for Outfall 008 was screened against the calculated water quality-based effluent limitations. The total zinc effluent average submitted with the application was far greater than the calculated water quality-based effluent limit and a limit for total zinc is being added to the draft permit with an interim three-year compliance period included in the draft permit for total

[1] Starting from the day of permit issuance and lasting two years eleven months and twenty-nine days.
[2] Starting three years from the day of issuance of the permit and lasting through the expiration of the permit.

zinc in accordance with 30 TAC §307.2(f). The interim compliance period will give the applicant time to determine the nature of the elevated total zinc levels.

Total Dissolved Solids (TDS), Chloride, and Sulfate Screening
The average concentration of TDS, chloride, and sulfate in the Outfall 008 effluent is greater than the segment criterion. Screening procedures and effluent limitations for TDS, chloride, and sulfate are calculated using the methodology in the *Procedures to Implement the Texas Surface Water Quality Standards*, June 2010, and criteria in the *Texas Surface Water Quality Standards* (30 TAC Chapter 307). Detailed calculations are presented in Appendix B. Based on the screening, effluent limitations are needed for TDS and sulfate and reporting requirements for chloride.

pH Screening
The existing permit includes pH limits of 6.0 – 9.0 SU at Outfalls 007 and 008, which discharge into unclassified water bodies. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring a discharge to an unclassified water body to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria. These limits have been carried forward in the draft permit.

316(b) Cooling Water Intake Structures
The facility obtains water from Coastal Water Authority, a public water system (PWS) (PWS No. TX1013463), for cooling and other plant purposes. The use of water obtained from a public water system for cooling purposes does not constitute the use of a cooling water intake structure; therefore, the facility is not subject to Section 316(b) of the CWA or 40 CFR Part 125, Subpart J.

The Other Requirement No. 2 has been carried forward from the existing permit and requires the permittee to notify the TCEQ of any changes in the method by which cooling water is obtained. Upon receipt of such notification, the TCEQ may reopen the permit to include additional terms and conditions as necessary.

Whole Effluent Toxicity Testing (Biomonitoring)
Biomonitoring requirements are not included in the draft permit.

The existing permit did not establish biomonitoring requirements and discharges authorized by this permit do not meet the threshold established in the *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194) to impose biomonitoring requirements.

SUMMARY OF CHANGES FROM APPLICATION

No changes were made from the application.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The permittee requested the following changes in their amendment request that the Executive Director has recommended granting.

An increase in utility wastewater daily average flow rate from 0.40 to 0.60 MGD and an increase of the daily maximum flow rate from 0.6 to 0.9 MGD via Outfall 008.

The following additional changes have been made to the draft permit.

1. The name of the facility was corrected to Mont Belvieu Hatcherville Complex in accordance to the Core Data Sheet provided in the application and the Central Registry.

2. A three-year interim compliance period and new limits for total zinc were placed in the draft permit which also results in changes to Other Requirement No. 1.
3. Other Requirement No. 6 from the existing permit was not carried forward as the data was provided in the application for the Outfalls.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on March 26, 2024, and additional information received on April 23, 2024.
2. Existing permits: TPDES Permit No. WQ0005267000 issued on November 29, 2021.
3. Waste Load Evaluation for Segment No. 0902.
4. TCEQ Rules.
5. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective March 1, 2018, as approved by EPA Region 6.
6. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective March 6, 2014, as approved by EPA Region 6, for portions of the 2018 standards not approved by EPA Region 6.
7. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not approved by EPA Region 6.
8. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not approved by EPA Region 6.
9. *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), Texas Commission on Environmental Quality, June 2010, as approved by EPA Region 6.
10. *Procedures to Implement the Texas Surface Water Quality Standards*, Texas Commission on Environmental Quality, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.
11. Memos from the Standards Implementation Team and Water Quality Assessment Team of the Water Quality Assessment Section of the TCEQ.
12. *Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits*, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.
13. EPA Effluent Guidelines: N/A.
14. Consistency with the Coastal Management Plan: N/A
15. Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).
16. Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).
17. General Guidance – Industrial Permits: Uncontaminated Stormwater Runoff, EPA, January 1997.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the chief clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent to the Chief Clerk, along with the Executive Director's preliminary decision contained in the technical summary or fact sheet. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case hearing.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ commissioners for their consideration at a scheduled commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the commission grants a contested case hearing as described above, the commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Thomas E. Starr at (512) 239-4570.

Thomas E. Starr
Thomas E. Starr, P.E.

July 7, 2024
Date

Appendix A
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #2 - INTERMITTENT STREAM WITHIN 3 MILES OF A FRESHWATER PERENNIAL

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Enterprise Products Operating, LLC
TPDES Permit No.:	WQ0005267000
Outfall No.:	008
Prepared by:	Thomas Starr
Date:	July 7, 2024

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Series of ditches
Perennial Stream/River within 3 Miles:	Cedar Bayou Above Tidal
Segment No.:	0902
TSS (mg/L):	4
pH (Standard Units):	7.1
Hardness (mg/L as $CaCO_3$):	90
Chloride (mg/L):	88
Effluent Flow for Aquatic Life (MGD):	0.6
Critical Low Flow [7Q2] (cfs) for intermittent:	0
Critical Low Flow [7Q2] (cfs) for perennial:	0.143
% Effluent for Chronic Aquatic Life (Mixing Zone):	86.65
% Effluent for Acute Aquatic Life (ZID):	100
Effluent Flow for Human Health (MGD):	0.6
Harmonic Mean Flow (cfs) for perennial:	0.384
% Effluent for Human Health:	70.739
Human Health Criterion (select: PWS, FISH, or INC)	**FISH**

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	173978.75	0.590		1.00	Assumed
Cadmium	6.60	-1.13	831136.22	0.231		1.00	Assumed
Chromium (total)	6.52	-0.93	912187.69	0.215		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	912187.69	0.215		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	375383.87	0.400		1.00	Assumed
Lead	6.45	-0.80	929719.64	0.212		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	222241.83	0.529		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	575278.59	0.303		1.00	Assumed
Zinc	6.10	-0.70	477043.53	0.344		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*FW Chronic Criterion*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.52	5.34
Aluminum	991	N/A	991	N/A	568	N/A	834	1765
Arsenic	340	150	577	294	330	226	332	703
Cadmium	7.7	0.229	33.5	1.14	19.2	0.879	1.29	2.73
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.40	0.00462	1.38	0.00355	0.00522	0.0110
Chlorpyrifos	0.083	0.041	0.0830	0.0473	0.0476	0.0364	0.0535	0.113
Chromium (trivalent)	523	68	2430	365	1392	281	412	873
Chromium (hexavalent)	15.7	10.6	15.7	12.2	9.00	9.42	13.2	27.9
Copper	12.9	8.7	32.2	25.0	18.4	19.2	27.0	57.3
Cyanide (free)	45.8	10.7	45.8	12.3	26.2	9.51	13.9	29.5
4,4'-DDT	1.1	0.001	1.10	0.00115	0.630	0.000889	0.00130	0.00276
Demeton	N/A	0.1	N/A	0.115	N/A	0.0889	0.130	0.276
Diazinon	0.17	0.17	0.170	0.196	0.0974	0.151	0.143	0.302
Dicofol [Kelthane]	59.3	19.8	59.3	22.8	34.0	17.6	25.8	54.7
Dieldrin	0.24	0.002	0.240	0.00231	0.138	0.00178	0.00261	0.00552
Diuron	210	70	210	80.8	120	62.2	91.4	193
Endosulfan I (*alpha*)	0.22	0.056	0.220	0.0646	0.126	0.0498	0.0731	0.154
Endosulfan II (*beta*)	0.22	0.056	0.220	0.0646	0.126	0.0498	0.0731	0.154
Endosulfan sulfate	0.22	0.056	0.220	0.0646	0.126	0.0498	0.0731	0.154
Endrin	0.086	0.002	0.0860	0.00231	0.0493	0.00178	0.00261	0.00552
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.0115	N/A	0.00889	0.0130	0.0276
Heptachlor	0.52	0.004	0.520	0.00462	0.298	0.00355	0.00522	0.0110
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.08	1.13	0.0923	0.645	0.0711	0.104	0.221
Lead	58	2.24	272	12.2	156	9.41	13.8	29.2
Malathion	N/A	0.01	N/A	0.0115	N/A	0.00889	0.0130	0.0276
Mercury	2.4	1.3	2.40	1.50	1.38	1.16	1.69	3.59
Methoxychlor	N/A	0.03	N/A	0.0346	N/A	0.0267	0.0391	0.0829
Mirex	N/A	0.001	N/A	0.00115	N/A	0.000889	0.00130	0.00276
Nickel	428	47.6	809	104	464	79.9	117	248
Nonylphenol	28	6.6	28.0	7.62	16.0	5.86	8.62	18.2
Parathion (ethyl)	0.065	0.013	0.0650	0.0150	0.0372	0.0116	0.0169	0.0359
Pentachlorophenol	9.6	7.4	9.65	8.54	5.53	6.58	8.12	17.1
Phenanthrene	30	30	30.0	34.6	17.2	26.7	25.2	53.4
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.00	0.0162	1.15	0.0124	0.0182	0.0386
Selenium	20	5	20.0	5.77	11.5	4.44	6.53	13.8
Silver	0.8	N/A	19.5	N/A	11.1	N/A	16.3	34.6
Toxaphene	0.78	0.0002	0.780	0.000231	0.447	0.000178	0.000261	0.000552
Tributyltin [TBT]	0.13	0.024	0.130	0.0277	0.0745	0.0213	0.0313	0.0663
2,4,5 Trichlorophenol	136	64	136	73.9	77.9	56.9	83.6	176
Zinc	107	108	312	363	179	279	262	555

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Water and Fish Criterion*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	1.0	115	1150	163	151	222	470
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.0000162	0.0000151	0.0000221	0.0000468
Anthracene	1109	1317	13170	1862	1731	2545	5384
Antimony	6	1071	10710	1514	1408	2069	4378
Arsenic	10	N/A	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5	581	5810	821	764	1122	2375
Benzidine	0.0015	0.107	1.07	0.151	0.141	0.206	0.437
Benzo(*a*)anthracene	0.024	0.025	0.25	0.0353	0.0329	0.0483	0.102
Benzo(*a*)pyrene	0.0025	0.0025	0.025	0.00353	0.00329	0.00483	0.0102
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.388	0.361	0.530	1.12
Bis(2-chloroethyl)ether	0.60	42.83	428.3	60.5	56.3	82.7	175
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phtha	6	7.55	75.5	10.7	9.93	14.5	30.8
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	389	362	531	1124
Bromoform [Tribromomethane]	66.9	1060	10600	1498	1394	2048	4334
Cadmium	5	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.5	46	460	65.0	60.5	88.8	188
Chlordane	0.0025	0.0025	0.025	0.00353	0.00329	0.00483	0.0102
Chlorobenzene	100	2737	27370	3869	3598	5289	11190
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	259	241	353	748
Chloroform [Trichloromethane]	70	7697	76970	10881	10119	14875	31470
Chromium (hexavalent)	62	502	5020	710	660	970	2052
Chrysene	2.45	2.52	25.2	3.56	3.31	4.87	10.3
Cresols [Methylphenols]	1041	9301	93010	13148	12228	17975	38028
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.002	0.02	0.00283	0.00263	0.00386	0.00817
4,4'-DDE	0.00013	0.00013	0.0013	0.000184	0.000171	0.000251	0.000531
4,4'-DDT	0.0004	0.0004	0.004	0.000565	0.000526	0.000773	0.00163
2,4'-D	70	N/A	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	262	473	4730	669	622	914	1933
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	5.99	5.57	8.19	17.3
m -Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	841	782	1149	2432
o -Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	4664	4337	6375	13488
p -Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.79	2.24	22.4	3.17	2.94	4.32	9.15
1,2-Dichloroethane	5	364	3640	515	479	703	1488
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	77912	72458	106512	225343
Dichloromethane [Methylene Chloride]	5	13333	133330	18848	17529	25767	54514
1,2-Dichloropropane	5	259	2590	366	341	500	1058
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	168	156	229	486
Dicofol [Kelthane]	0.30	0.30	3	0.424	0.394	0.579	1.22
Dieldrin	2.0E-05	2.0E-05	2.0E-04	0.0000283	0.0000263	0.0000386	0.0000817
2,4-Dimethylphenol	444	8436	84360	11926	11091	16303	34492
Di-*n* -Butyl Phthalate	88.9	92.4	924	131	121	178	377
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	1.13E-07	1.05E-07	1.54E-07	3.25E-07
Endrin	0.02	0.02	0.2	0.0283	0.0263	0.0386	0.0817
Epichlorohydrin	53.5	2013	20130	2846	2646	3890	8230
Ethylbenzene	700	1867	18670	2639	2455	3608	7633
Ethylene Glycol	46744	1.68E+07	1.68E+08	23749233	22086786	32467575	68689905
Fluoride	4000	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	8.0E-05	0.0001	0.001	0.000141	0.000131	0.000193	0.000408
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.000410	0.000381	0.000560	0.00118
Hexachlorobenzene	0.00068	0.00068	0.0068	0.000961	0.000894	0.00131	0.00278
Hexachlorobutadiene	0.21	0.22	2.2	0.311	0.289	0.425	0.899

Parameter	*Water and Fish Criterion*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0078	0.0084	0.084	0.0119	0.0110	0.0162	0.0343
Hexachlorocyclohexane (*beta*)	0.15	0.26	2.6	0.368	0.342	0.502	1.06
Hexachlorocyclohexane (*gamma*) [Lindane]	0.2	0.341	3.41	0.482	0.448	0.659	1.39
Hexachlorocyclopentadiene	10.7	11.6	116	16.4	15.3	22.4	47.4
Hexachloroethane	1.84	2.33	23.3	3.29	3.06	4.50	9.52
Hexachlorophene	2.05	2.90	29	4.10	3.81	5.60	11.8
4,4'-Isopropylidenediphenol [Bisphenol A]	1092	15982	159820	22593	21011	30886	65345
Lead	1.15	3.83	38.3	25.5	23.8	34.9	73.8
Mercury	0.0122	0.0122	0.122	0.0172	0.0160	0.0235	0.0498
Methoxychlor	2.92	3.0	30	4.24	3.94	5.79	12.2
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	1402336	1304172	1917133	4055975
Methyl *tert* -butyl ether [MTBE]	15	10482	104820	14818	13781	20257	42857
Nickel	332	1140	11400	3044	2831	4161	8804
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45.7	1873	18730	2648	2462	3619	7658
N-Nitrosodiethylamine	0.0037	2.1	21	2.97	2.76	4.05	8.58
N-Nitroso-di-*n* -Butylamine	0.119	4.2	42	5.94	5.52	8.11	17.1
Pentachlorobenzene	0.348	0.355	3.55	0.502	0.467	0.686	1.45
Pentachlorophenol	0.22	0.29	2.9	0.410	0.381	0.560	1.18
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.000905	0.000841	0.00123	0.00261
Pyridine	23	947	9470	1339	1245	1830	3871
Selenium	50	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.339	0.316	0.463	0.981
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	37.2	34.6	50.9	107
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	396	368	541	1144
Thallium	0.12	0.23	2.3	0.325	0.302	0.444	0.940
Toluene	1000	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.011	0.11	0.0156	0.0145	0.0212	0.0449
2,4,5-TP [Silvex]	50	369	3690	522	485	713	1508
1,1,1-Trichloroethane	200	784354	7843540	1108798	1031182	1515837	3206976
1,1,2-Trichloroethane	5	166	1660	235	218	320	678
Trichloroethylene [Trichloroethene]	5	71.9	719	102	94.5	138	293
2,4,5-Trichlorophenol	1039	1867	18670	2639	2455	3608	7633
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.23	16.5	165	23.3	21.7	31.8	67.4

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life ***Parameter***	***70% of Daily Avg. (µg/L)***	***85% of Daily Avg. (µg/L)***
Aldrin	1.76	2.14
Aluminum	584	709
Arsenic	232	282
Cadmium	0.904	1.09
Carbaryl	1.17	1.43
Chlordane	0.00365	0.00444
Chlorpyrifos	0.0374	0.0455
Chromium (trivalent)	288	350
Chromium (hexavalent)	9.25	11.2
Copper	18.9	23.0
Cyanide (free)	9.78	11.8
4,4'-DDT	0.000914	0.00111
Demeton	0.0914	0.111
Diazinon	0.100	0.121
Dicofol [Kelthane]	18.1	21.9
Dieldrin	0.00182	0.00222
Diuron	64.0	77.7
Endosulfan I (*alpha*)	0.0512	0.0621
Endosulfan II (*beta*)	0.0512	0.0621
Endosulfan sulfate	0.0512	0.0621
Endrin	0.00182	0.00222
Guthion [Azinphos Methyl]	0.00914	0.0111
Heptachlor	0.00365	0.00444
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0731	0.0888
Lead	9.68	11.7
Malathion	0.00914	0.0111
Mercury	1.18	1.44
Methoxychlor	0.0274	0.0333
Mirex	0.000914	0.00111
Nickel	82.1	99.7
Nonylphenol	6.03	7.32
Parathion (ethyl)	0.0118	0.0144
Pentachlorophenol	5.68	6.90
Phenanthrene	17.6	21.4
Polychlorinated Biphenyls [PCBs]	0.0128	0.0155
Selenium	4.57	5.55
Silver	11.4	13.9
Toxaphene	0.000182	0.000222
Tributyltin [TBT]	0.0219	0.0266
2,4,5 Trichlorophenol	58.5	71.0
Zinc	183	223

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrylonitrile	155	188
Aldrin	0.0000155	0.0000188
Anthracene	1781	2163
Antimony	1448	1759
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	785	954
Benzidine	0.144	0.175
Benzo(*a*)anthracene	0.0338	0.0410
Benzo(*a*)pyrene	0.00338	0.00410
Bis(chloromethyl)ether	0.371	0.450
Bis(2-chloroethyl)ether	57.9	70.3
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phtha	10.2	12.4
Bromodichloromethane [Dichlorobromomethane]	372	451
Bromoform [Tribromomethane]	1433	1741
Cadmium	N/A	N/A
Carbon Tetrachloride	62.2	75.5
Chlordane	0.00338	0.00410
Chlorobenzene	3702	4496
Chlorodibromomethane [Dibromochloromethane]	247	300
Chloroform [Trichloromethane]	10412	12643
Chromium (hexavalent)	679	824
Chrysene	3.40	4.13
Cresols [Methylphenols]	12582	15278
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00270	0.00328
4,4'-DDE	0.000175	0.000213
4,4'-DDT	0.000541	0.000657
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	639	776
1,2-Dibromoethane [Ethylene Dibromide]	5.73	6.96
m -Dichlorobenzene [1,3-Dichlorobenzene]	804	977
o -Dichlorobenzene [1,2-Dichlorobenzene]	4462	5419
p -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	3.03	3.67
1,2-Dichloroethane	492	597
1,1-Dichloroethylene [1,1-Dichloroethene]	74559	90536
Dichloromethane [Methylene Chloride]	18037	21902
1,2-Dichloropropane	350	425
1,3-Dichloropropene [1,3-Dichloropropylene]	160	195
Dicofol [Kelthane]	0.405	0.492
Dieldrin	0.0000270	0.0000328
2,4-Dimethylphenol	11412	13857
Di-*n* -Butyl Phthalate	125	151
Dioxins/Furans [TCDD Equivalents]	1.07E-07	1.30E-07
Endrin	0.0270	0.0328
Epichlorohydrin	2723	3306
Ethylbenzene	2525	3066
Ethylene Glycol	22727303	27597439
Fluoride	N/A	N/A
Heptachlor	0.000135	0.000164
Heptachlor Epoxide	0.000392	0.000476
Hexachlorobenzene	0.000919	0.00111
Hexachlorobutadiene	0.297	0.361

Human Health *Parameter*	*70% of Daily Avg.* *(µg/L)*	*85% of Daily Avg.* *(µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0113	0.0137
Hexachlorocyclohexane (*beta*)	0.351	0.427
Hexachlorocyclohexane (*gamma*) [Lindane]	0.461	0.560
Hexachlorocyclopentadiene	15.6	19.0
Hexachloroethane	3.15	3.82
Hexachlorophene	3.92	4.76
4,4'-Isopropylidenediphenol [Bisphenol A]	21620	26253
Lead	24.4	29.6
Mercury	0.0165	0.0200
Methoxychlor	4.05	4.92
Methyl Ethyl Ketone	1341993	1629563
Methyl *tert* -butyl ether [MTBE]	14180	17218
Nickel	2913	3537
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	2533	3076
N-Nitrosodiethylamine	2.84	3.44
N-Nitroso-di-*n* -Butylamine	5.68	6.89
Pentachlorobenzene	0.480	0.583
Pentachlorophenol	0.392	0.476
Polychlorinated Biphenyls [PCBs]	0.000865	0.00105
Pyridine	1281	1555
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.324	0.394
1,1,2,2-Tetrachloroethane	35.6	43.2
Tetrachloroethylene [Tetrachloroethylene]	378	459
Thallium	0.311	0.377
Toluene	N/A	N/A
Toxaphene	0.0148	0.0180
2,4,5-TP [Silvex]	499	606
1,1,1-Trichloroethane	1061086	1288462
1,1,2-Trichloroethane	224	272
Trichloroethylene [Trichloroethene]	97.2	118
2,4,5-Trichlorophenol	2525	3066
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	22.3	27.1

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate

Menu 2 - Discharge to an Intermittent Stream within 3 Miles of a Perennial Stream

Screen the Perennial Stream

Applicant Name:	**Enterprise Products Operating LLC**
Permit Number, Outfall:	**008**
Segment Number:	**0902**

Enter values needed for screening:			**Data Source (edit if different)**
QE - Average effluent flow (2 yr avg)	**0.6**	MGD	2 year max
QS - Perennial stream harmonic mean flow	**0.38**	cfs	2024 Critical conditions memo
QE - Average effluent flow	**0.9283**	cfs	Calculated
CA - TDS - ambient segment concentration	**373**	mg/L	2010 IP, Appendix D
CA - chloride - ambient segment concentration	**83**	mg/L	2010 IP, Appendix D
CA - sulfate - ambient segment concentration	**17**	mg/L	2010 IP, Appendix D
CC - TDS - segment criterion	**700**	mg/L	2014 TSWQS, Appendix A
CC - chloride - segment criterion	**200**	mg/L	2014 TSWQS, Appendix A
CC - sulfate - segment criterion	**150**	mg/L	2014 TSWQS, Appendix A
CE - TDS - average effluent concentration	**1677.5**	mg/L	Permit application
CE - chloride - average effluent concentration	**258**	mg/L	Permit application
CE - sulfate - average effluent concentration	**445**	mg/L	Permit application

Screening Equation

$CC \geq [(QS)(CA) + (QE)(CE)]/[QE + QS]$

TDS

Calculate the WLA	WLA= [CC(QE+QS) - (QS)(CA)]/QE	835.26
Calculate the LTA	LTA = WLA * 0.93	776.79
Calculate the daily average	Daily Avg. = LTA * 1.47	**1141.89**
Calculate the daily maximum	Daily Max. = LTA * 3.11	**2415.83**
Calculate 70% of the daily average	70% of Daily Avg. =	799.32
Calculate 85% of the daily average	85% of Daily Avg. =	970.60

No permit limitations needed if:	**1677.5**	**≤**	**799.32**		
Reporting needed if:	**1677.5**	**>**	**799.32**	**but ≤**	**970.60**
Permit limits may be needed if:	**1677.5**	**>**	**970.60**		

Permit limits may be needed for TDS

Chloride

Calculate the WLA	WLA= [CC(QE+QS) - (QS)(CA)]/QE	248.40
Calculate the LTA	LTA = WLA * 0.93	231.01
Calculate the daily average	Daily Avg. = LTA * 1.47	**339.58**
Calculate the daily maximum	Daily Max. = LTA * 3.11	**718.44**
Calculate 70% of the daily average	70% of Daily Avg. =	237.71
Calculate 85% of the daily average	85% of Daily Avg. =	288.65

No permit limitations needed if:	**258**	**≤**	**237.71**		
Reporting needed if:	**258**	**>**	**237.71**	**but ≤**	**288.65**
Permit limits may be needed if:	**258**	**>**	**288.65**		

Reporting needed for chloride

Sulfate

Calculate the WLA	WLA= [CC(QE+QS) - (QS)(CA)]/QE	205.01
Calculate the LTA	LTA = WLA * 0.93	190.66
Calculate the daily average	Daily Avg. = LTA * 1.47	**280.28**
Calculate the daily maximum	Daily Max. = LTA * 3.11	**592.96**
Calculate 70% of the daily average	70% of Daily Avg. =	196.19
Calculate 85% of the daily average	85% of Daily Avg. =	238.23

No permit limitations needed if:	**445**	**≤**	**196.19**		
Reporting needed if:	**445**	**>**	**196.19**	**but ≤**	**238.23**
Permit limits may be needed if:	**445**	**>**	**238.23**		

Permit limits may be needed for sulfate

Appendix C
Comparison of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/ assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are the most stringent of the three and are included in the draft permit.

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*		*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*	*Daily Max*	*Daily Avg*	*Daily Max*
		mg/L	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
007	Flow	Report (MGD)	Report (MGD)			**Report (MGD)**	**Report (MGD)**
	Total Organic Carbon	N/A	75			**N/A**	**75**
	Oil and Grease	N/A	15			**N/A**	**15**
	pH	6.0 SU, minimum	9.0 SU			**6.0 SU, minimum**	**9.0 SU**
008	Flow	**0.60 MGD**	**0.90 MGD**			0.40 MGD	0.60 MGD
	Total Suspended Solids	30	100			**30**	**100**
	Oil and Grease	15	20			**15**	**20**
	Total Dissolved Solids (TDS) [1]	-	-	**Report**	**Report**	-	-
	Chloride [1]	-	-	**Report**	**Report**	-	-
	Sulfate [1]	-	-	**Report**	**Report**	-	-
	TDS [2]	-	-	**1142**	**2416**	-	-
	Sulfate [2]	-	-	**280**	**593**	-	-
	Total Zinc [3]			**Report**	**Report**		
	Total Zinc [4]	-	-	**0.262**	**0.555**	-	-
	pH	6.0 SU, minimum	9.0 SU			**6.0 SU, minimum**	**9.0 SU**

[1] Starting on the date of issuance of the permit and lasting for 364 days.
[2] Starting one-years after the issuance of the permit and last through the expiration of the permit.
[3] Starting on the date of issuance of the permit and lasting for two-years and 364 days.
[4] Starting three-years after the issuance of the permit and last through the expiration of the permit.

Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

March 22, 2024

9589 0710 5270 0140 6140 10
Return Receipt Requested

Water Quality Division
Application Review and Processing Team, MC-148
Texas Commission on Environmental Quality
PO Box 13087
Austin, TX 78711

Re: Application to Amend and Renew TPDES Permit
WQ0005267000; EPA ID No. TX0139076
Enterprise Products Operating LLC CN603211277 Enterprise
Mont Belvieu Hatcherville Complex RN109438028

To whom it may concern:

Enterprise Products Operating LLC (Enterprise) submits herein to the Texas Commission on Environmental Quality (TCEQ), one original and two copies of the enclosed Major Amendment with Renewal Application for Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005267000 (Permit). The current Permit has an expiration date of September 23, 2024 and per the Permit Condition 4.c of the Permit, an application for renewal must be submitted on or before March 27, 2024.

The application fee has been submitted to TCEQ Financial Administration under separate cover and a copy of the payment has been included with the enclosed application. The application has also been submitted to TCEQ electronically as required.

Should you have any questions or need any additional information, please contact Daniel Bissonnette at (713) 381-3669 (dmbissonnette@eprod.com) or Pranav Kulkarni at (713) 381-5830.

Thank you,
Enterprise Products Operating LLC

Daniel Bissonnette
Supervisor, Environmental Permitting

Pranav Kulkarni, Ph. D.
Director, Environmental

/sed
Enclosure

P.O. BOX 4324
HOUSTON, TEXAS 77210-4324
713.381.6500

1100 LOUISIANA STREET
HOUSTON, TEXAS 77002-5227
www.enterpriseproducts.com

Enterprise Products Operating LLC
Enterprise Mont Belvieu Hatcherville Complex
Major Amendment with Renewal
TPDES Permit No. WQ0005267000

RN109438028
CN603211277

March 2024

Table of Contents

Industrial Administrative Report 1.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ INDUSTRIAL WASTEWATER PERMIT APPLICATION

INDUSTRIAL ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report

Item 1. Application Information and Fees (Instructions, Page 25)

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

Applicant Name: Enterprise Products Operating LLC EPA ID No.: TX0139076

Permit No.: WQ0005267000 Expiration Date: September 23, 2024

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

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: Enterprise is requesting to increase utility wastewater daily average flow rate 0.60 MGD and the daily maximum flow rate to 0.90 MGD via Outfall 008.

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 [1]	☐ $2,050	☐ $2,015	☐ $450

For TCEQ Use Only

Segment Number _____County _____

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

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: Click to enter text. Copy of voucher attachment: A

Item 2. Applicant Information (Instructions, Pages 25)

a. Customer Number, if applicant is an existing customer: CN603211277

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[2].

b. Legal name of the entity (applicant) applying for this permit: Enterprise Products Operating 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.)

☒ Mr. ☐ Ms. First/Last Name: Bradley J. Cooley

Title: Senior Director Credential: PE

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.

Item 3. Co-applicant Information (Instructions, Page 26)

☒ 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.)

☐ Mr. ☐ Ms. First/Last 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

[2] 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 4. Core Data Form (Instructions, Pages 26)

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 26)

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

☒ Mr. ☐ Ms. Full Name (First and Last): Daniel Bissonnette

Title: Supervisor, Environmental Permitting Credential: .

Organization Name: Enterprise Products Operating LLC

Mailing Address: PO Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-3669 Fax No: Click to enter text. Email: dmbissonnette@eprod.com

b. ☒ Administrative Contact . ☒ Technical Contact

☒ Mr. ☐ Ms. Full Name (First and Last): Pranav Kulkarni

Title: Director, Environmental Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-5830 Fax No: Click to enter text. Email: pkulkarni@eprod.com

Attachment: Click to enter text.

Item 6. Permit Contact Information (Instructions, Pages 26)

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

a. ☒ Mr. ☐ Ms. Full Name (First and Last): Daniel Bissonnette

Title: Supervisor, Environmental Permitting Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Mailing Address: PO Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-3669 Fax No: Click to enter text. Email: dmbissonnette@eprod.com

b. ☒ Mr. ☐ Ms. Full Name (First and Last): Pranav Kulkarni

Title: Director, Environmental Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-5830 Fax No: Click to enter text. Email: pkulkarni@eprod.com

Attachment: Click to enter text.

Item 7. Billing Contact Information (Instructions, Page 27)

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.

☐ Mr. ☒ Ms. Full Name (First and Last): Brenda Mendez

Title: Analyst, Planning & Reports Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-6595 Fax No: Click to enter text. Email: environmental@eprod.com

Item 8. DMR/MER Contact Information (Instructions, Page 27)

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.

☒ Mr. ☐ Ms. Full Name (First and Last): Philip Chapman

Title: Senior Environmental Scientist Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Mailing Address: 10910 Eagle Drive

City: Mont Belvieu State: TX Zip Code: 77523

Phone No: 832-501-4196 Fax No: Click to enter text. Email: PTChapman1@eprod.com

Item 9. NOTICE INFORMATION (Instructions, Pages 27

a. Individual Publishing the Notices

☒ Mr. ☐ Ms. Full Name (First and Last): Daniel Bissonnette

Title: Supervisor, Environmental Permitting Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-3669 Fax No: Click to enter text. Email: dmbissonnette@eprod.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: environmental@eprod.com and dmbissonnette@eprod.com

☐ Fax: Click to enter text.

☒ Regular Mail (USPS)

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

c. Contact in the Notice

☒ Mr. ☐ Ms Full Name (First and Last): Daniel Bissonnette

Title: Supervisor, Environmental Permitting Credential: Click to enter text.

Organization Name: Enterprise Products Operating LLC

Phone No: 713-381-3669 Fax No: Click to enter text. Email: dmbissonnette@eprod.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: Sam and Carmena Goss Memorial Branch Library Location within the building: Public Library, reference section

Physical Address of Building: 1 John Hall Drive

City: Mont Belvieu County: Chambers

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.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are 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 at the end of this application.

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: C

Item 10. Regulated Entity and Permitted Site Information (Instructions Pages 28-30)

a. TCEQ issued Regulated Entity Number (RN), if available: RN 109438028

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): Mont Belvieu Hatcherville Complex

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:

☐ Mr. ☐ Ms. Full Name (First and Last): Click to enter text.

or Organization Name: Enterprise Products Operating LLC

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-6595 Fax No: Click to enter text. Email: environmental@eprod.com

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

f. Owner of land where treatment facility is or will be:

☐ Mr. ☐ Ms. Full Name (First and Last): Click to enter text.

or Organization Name: Enterprise Products Operating LLC

Mailing Address: P.O. Box 4324

City: Houston State: TX Zip Code: 77210

Phone No: 713-381-6595 Fax No: Click to enter text. Email: environmental@eprod.com

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

☐ Mr. ☐ Ms. Full Name (First and Last): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text.

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

Phone No: Click to enter text. Fax 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):

☐ Mr. ☐ Ms. Full Name (First and Last): N/A

or Organization Name: Click to enter text.

Mailing Address: Click to enter text.

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

Phone No: Click to enter text. Fax 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, Pages 30-32)

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
☒ Applicant's property boundaries
☒ Labeled point(s) of discharge
☐ Effluent disposal site boundaries
☐ Sewage sludge disposal site
☒ Three-miles downstream information
☒ Treatment facility boundaries
☒ Highlighted discharge route(s)
☒ All wastewater ponds
☒ 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: N/A

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: N/A

f. City nearest the outfall(s): Baytown and Mont Belvieu

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

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: N/A

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: N/A

i. For TLAPs, is the location of the effluent 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

j. City nearest the disposal site: N/A

k. County in which the disposal site is located: N/A

l. Disposal Site Latitude: N/A Longitude: N/A

m. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: N/A

n. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: N/A

Item 12. MISCELLANEOUS INFORMATION (Instructions, Page 32)

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: Jamie Koenings and Madison Taylor - Burns & McDonnell Engineering Company

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the account no.: Click to enter text. and total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the enforcement order no.: Click to enter text. and amount due: Click to enter text.

Item 13. SIGNATURE PAGE (Instructions, Pages 32-33)

Permit No: WQ0005267000

Applicant Name: Enterprise Products Operating LLC

Certification: I, Bradley J. Cooley, 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): Bradley J. Cooley

Signatory title: Senior Director

Signature: _____ Date: 3/22/24
(Use blue ink)

Subscribed and Sworn to before me by the said Bradley J. Cooley

on this 22nd day of March, 2024.

My commission expires on the February day of 23, 2026.

Brenda J Mendez
Notary Public

Harris
County, Texas

BRENDA J. MENDEZ
Notary Public, State of Texas
Comm. Expires 02-23-2026
Notary ID 10264322

[SEAL]

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

Industrial Administrative Report 1.1

INDUSTRIAL ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Item 1. AFFECTED LANDOWNER INFORMATION (Instructions, Pages 34-35)

a. Attach a landowner map or drawing, with scale, as applicable. Check the box next to each item to confirm it has been provided.

☒ The applicant's property boundaries.

☒ The facility site boundaries within the applicant's property boundaries.

☐ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone.

☒ The property boundaries of all landowners surrounding the applicant's property. (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)

☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream.

☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge.

☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides.

☐ The boundaries of the effluent disposal site (e.g., irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property.

☐ The property boundaries of all landowners surrounding the applicant's property boundaries where the effluent disposal site is located.

☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners within one-quarter mile of the applicant's property boundaries where the sewage sludge land application site is located.

☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (e.g., sludge surface disposal site or sludge monofil) is located.

Attachment: E

b. Check the box next to the format of the landowners list:

☐ Readable/Writeable CD ☒ Four sets of labels

Attachment: E

d. Provide the source of the landowners' names and mailing addresses: Chambers County Appraisal District and Harris County Appraisal District

e. As required by Texas Water Code § 5.115, is any permanent school fund land affected by this application?

☐ Yes ☒ No

If yes, provide the location and foreseeable impacts and effects this application has on the land(s): Click to enter text.

Item 2. Public Involvement Plan Form (Instructions, Page 36)

Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment to a permit.

See Attachment C

Item 3. ORIGINAL PHOTOGRAPHS (Instructions, Page 36)

Provide original ground level photographs. Check the box next to each of the following items to indicate it is included.

☐ At least one original photograph of the new or expanded treatment unit location.

☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.

☐ At least one photograph of the existing/proposed effluent disposal site.

☒ A plot plan or map showing the location and direction of each photograph.

Attachment: F

.

Supplemental Permit Information Form

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING 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 36)

The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ agreement with EPA. If any of the items are not completely addressed or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

Do not refer to a response of any item in the permit application form. Each attachment must be provided with this form separately from the administrative report of the application. The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

The following applies to all applications:

1. Permittee Name: Enterprise Products Operating LLC

2. Permit No.: WQ0005267000 EPA ID No.: TX0139076

3. Address of the project (location description that includes street/highway, city/vicinity, and county): 12091 Hatcherville Road, on the west side of Hatcherville Road, 0.9 mile north of the intersection of Hatcherville Road and Farm-to-Market Road 1942, Baytown, Chambers County

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

   Full Name (First and Last): Daniel Bissonnette

   Organization Name: Enterprise Products Operating LLC Mailing Address: PO Box 4324

   City: Houston State: TX Zip Code: 77210

   Phone No: 713-381-3669 Fax No: Click to enter text. Email: dmbissonnette@eprod.com

5. List the county in which the facility is located: Chambers

6. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property: N/A

7. 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: The facility will discharge via Outfalls 007 and 008 to an unnamed ditch; thence to a ditch adjacent to the Coastal Water Authority (CWA) Canal; thence to Cedar Bayou Above Tidal in Segment No. 0902 of the Trinity-San Jacinto Coastal Basin

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

9. Provide original photographs of any structures 50 years or older on the property. Attachment: N/A

10. 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

11. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features): Current site development includes 170 acres to continue constructing new processing units

12. Describe existing disturbances, vegetation, and land use: The Enterprise Mont Belvieu Hatcherville Complex is currently a natural gas liquids fractionation facility. Prior to construction, the property was primarily vacant except for pipelines, drainage ditch, and water supply canal

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

13. List construction dates of all buildings and structures on the property: Enterprise began developing the Mont Belvieu Hatcherville Complex in 2013. Construction of the facility is still currently in progress.

14. Provide a brief history of the property, and name of the architect/builder, if known: The property was previously vacant land, some of which was also used for agricultural purposes.

Plain Language Summary

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

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 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.

Enterprise Products Operating LLC (CN603211277) operates Enterprise Mont Belvieu Hatcherville Complex (RN109438028), a propane dehydrogenation, isobutane dehydrogenation, and natural gas liquids fractionation plant. The facility is located at 12901 Hatcherville Road and Farm-to-Market Road 1942 in the City of Baytown, Chambers County, Texas 77521.

The application is for a major amendment with renewal to discharge non-process area stormwater comingled with allowable non-stormwater wastestreams on an intermittent and flow-variable basis via Outfall 007; and requesting to increase the utility wastewater flow to a daily average flow not to exceed 600,000 gallons per day via Outfall 008.

The pollutants permitted from these discharges are total suspended solids, total organic carbon, and oil and grease. All process wastewater, first flush stormwater, and other potentially contaminated stormwater are routed to and treated by the Propane Dehydrogenation Unit (PDH) wastewater treatment plant covered under TPDES permit no. WQ0005014000. Domestic wastewater will be sent to the City of Mont Belvieu Cotton Bayou Wastewater Treatment facility POTW for treatment and permitted discharge.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

Enterprise Products Operating LLC (CN603211277) opera Enterprise Mont Belvieu Hatcherville Complex (RN109438028), una planta de deshidrogenación de propano, deshidrogenación de isobutano y fraccionamiento de líquidos de gas natural. La instalación está ubicada en 12901 Hatcherville Road y Farm-to-Market Road 1942 en la ciudad de Baytown, condado de Chambers, Texas 77521.

La solicitud es para una enmienda importante con renovación para descargar aguas pluviales que no pertenecen al área de proceso combinadas con corrientes residuales permitidas que no son aguas pluviales de forma intermitente y de flujo variable a través del Desagüe 007; y solicitar aumentar el flujo de aguas residuales de los servicios públicos a un flujo promedio diario que no exceda los 600,000 galones por día a través del Desagüe 008.

Los contaminantes permitidos de estas descargas son sólidos suspendidos totales, carbono orgánico total y aceites y grasas. Todas las aguas residuales de proceso, las aguas pluviales de primera descarga y otras aguas pluviales potencialmente contaminadas se dirigen y tratan en la planta de tratamiento de aguas residuales de la Unidad de deshidrogenación de propano (PDH) cubierta por el permiso TPDES no. WQ0005014000. Las aguas residuales domésticas se enviarán a la instalación de tratamiento de aguas residuales de Cotton Bayou de la ciudad de Mont Belvieu, POTW, para su tratamiento y descarga permitida.

Industrial Technical Report 1.0

TECHNICAL REPORT 1.0
INDUSTRIAL

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, refer to the Instructions for Completing the Industrial Wastewater Permit Application[1] available on the TCEQ website.

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.

1. FACILITY/SITE INFORMATION (Instructions, Pages 39-40)

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

See Attachment H for Facility Description. SIC Codes 2869 and 1321.

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

See Attachment H for Facility Description.

[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
Propane	Isobutane	Propane
Natural Gas Liquids	Isobutylene	Ethane
Ethane	Hydrogen	Isobutane
Caustic		n-butane
Sulfur Additive		Various C4s and C5s
Natural Gas		Natural Gasoline
		Propylene
		Hydrogen

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: I

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 FIRM 48071C0160F, effective January 19, 2018

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

2. TREATMENT SYSTEM (Instructions, Page 40)

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

See Attachment H for Facility Description.

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

Attachment: J

3. IMPOUNDMENTS (Instructions, Pages 40-42)

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:

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** #SW-8 Retention Pond	**Pond** #SW-9 Detention Pond	**Pond** #SW-10 Retention Pond	**Pond** #SW-11 Detention Pond
Use Designation: (T) (D) (C) or (E)	C	C	C	C
Associated Outfall Number	007	007	007	007
Liner Type (C) (I) (S) or (A)	S	I	S	I
Alt. Liner Attachment Reference	N/A	N/A	N/A	N/A
Leak Detection System, Y/N	Y	N	Y	N
Groundwater Monitoring Wells, Y/N	N	N	N	N
Groundwater Monitoring Data Attachment	N/A	N/A	N/A	N/A
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Y	Y	Y	Y
Length (ft)	175	Irregular	380	Irregular
Width (ft)	250	Irregular	160	Irregular
Max Depth From Water Surface (ft), Not Including Freeboard	5.75	7	6.5	3
Freeboard (ft)	2	2	2	2
Surface Area (acres)	1.1	5.6	1.2	1
Storage Capacity (gallons)	1.7 MG	13.1 MG	2.1 MG	1.9 MG
40 CFR Part 257, Subpart D, Y/N	N	N	N	N
Date of Construction	5/21/2020	2022	2022	2022

Impoundment Information

Parameter	**Pond** #SW-12 Retention Pond	**Pond** #SW-13 Detention Pond	**Pond #**	**Pond #**
Use Designation: (T) (D) (C) or (E)	C	C		
Associated Outfall Number	007	007		
Liner Type (C) (I) (S) or (A)	S	I		
Alt. Liner Attachment Reference	N/A	N/A		
Leak Detection System, Y/N	N	N		
Groundwater Monitoring Wells, Y/N	N	N		
Groundwater Monitoring Data Attachment	N/A	N/A		
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Y	Y		
Length (ft)	Irregular	Irregular		
Width (ft)	Irregular	Irregular		
Max Depth From Water Surface (ft), not including freeboard	7.0	7.0		
Freeboard (ft)	1	1		
Surface Area (acres)	1.35	1.7		
Storage Capacity (gallons)	2.1 MG	2.8 MG		
40 CFR Part 257, Subpart D, Y/N	N	N		
Date of Construction	2024	2024		

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**.

i. Liner data

☒ Yes ☐ No ☐ Not yet designed

ii. Leak detection system or groundwater monitoring data

☐ Yes ☒ No ☐ Not yet designed

iii. Groundwater impacts

☐ Yes ☒ No ☐ Not yet designed

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

Attachment: K

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

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

Attachment: N/A

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

Attachment: N/A

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

Attachment: N/A

4. OUTFALL/DISPOSAL METHOD INFORMATION (Instructions, Pages 42-43)

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

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

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

Outfall Latitude and Longitude

Outfall Number	Latitude-decimal degrees	Longitude-decimal degrees
007	29 .866512°	-94 .933224°
008	29 .866483°	-94 .933327°

Outfall Location Description

Outfall Number	Location Description
007	At the south end of the facility prior to entering the unnamed ditch
008	At the south end of the facility prior to entering the unnamed ditch

Description of Sampling Points (if different from Outfall location)

Outfall Number	Description of Sampling Point
007	Same as location description
008	Same as location description

Outfall Flow Information – Permitted and Proposed

Outfall Number	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)
007	Variable	Variable	Variable	Variable	---
008	0.40	0.60	0.60	0.90	TBD

Outfall Discharge – Method and Measurement

Outfall Number	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
007	Y	N	Estimate
008	Y	N	Flow Meter

Outfall Discharge – Flow Characteristics

Outfall Number	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
007	Y	N	N	24	31	12
008	N	Y	N	24	31	12

Wastestream Contributions

Outfall No.: 007

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Non-process area stormwater	Variable	70
Post-first flush stormwater	Variable	30
Hydrostatic test water	Variable	Intermittent
Allowable non-stormwater*	Variable	Intermittent
Non-stormwater flows defined in Attachment H		

Outfall No.: 008

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Utility wastewater flows*	0.60	100
* Utility wastewater flows defined in Attachment H		

Outfall No.: Click to enter text

Contributing Wastestreams	Volume (MGD)	% of Total Flow

Attachment: See Attachment H for additional details

5. BLOWDOWN AND ONCE-THROUGH COOLING WATER DISCHARGES (Instructions, Page 44)

a. Does the facility use/propose to use any cooling towers which discharge blowdown or other wastestreams to the outfall(s)?

☒ Yes ☐ No

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

b. Does the facility use or plan to use any boilers that discharge blowdown or other wastestreams to the outfall(s)?

☐ Yes ☒ No

c. Does or will the facility discharge once-through cooling water to the outfall(s)?

☐ Yes ☒ No

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

d. If **yes** to Items 5.a, 5.b, **or** 5.c, attach the 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.

Attach a summary of this information in addition to the submittal of the SDS for each specific wastestream and the associated chemical additives and specify which outfalls are affected.

Attachment: L

e. Cooling Towers and Boilers

If **yes** to either Item 5.a **or** 5.b, complete the following table.

Cooling Towers and Boilers

Type of Unit	Number of Units	Dly Avg Blowdown (gallons/day)	Dly Max Blowdown (gallons/day)
Cooling Towers	6	600,000	900,000
Boilers	N/A		

6. STORMWATER MANAGEMENT (Instructions, Page 44)

Are there any existing/proposed outfalls which 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 some manner which may result in exposure of the activities or materials to stormwater: See Attachment H for Facility Description.

7. DOMESTIC SEWAGE, SEWAGE SLUDGE, AND SEPTAGE MANAGEMENT AND DISPOSAL (Instructions, Page 45)

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**: Click to enter text

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.
Cotton Bayou WWTP- City of Mont Belvieu	WQ0014807001

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 of Frac Unit XIV

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

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: M

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**.

11. RADIOACTIVE MATERIALS (Instructions, Pages 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	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	Concentration (pCi/L)

12. COOLING WATER (Instructions, Pages 46-47)

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

i. 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	S1010013A			
Owner	City of Houston			
Operator	City of Houston			

ii. 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. TX1010013

iii. 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

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

☐ Yes ☐ No

If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes to the facility and proceed: Click to enter text.

If **no**, proceed to Item 12.d.

d. 316(b) General Criteria

i. 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

ii. 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

iii. 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)(i-iii) and (vi), 2(b)(i), and 3(a) to allow for a determination based upon BPJ.

f. Oil and Gas Exploration and Production

i. 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.

ii. 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)(i-iii) and (vi), 2(b)(i), and 3(a) to allow for a determination based upon BPJ. If **no**, skip to Item 12.g.iii.

g. Compliance Phase and Track Selection

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

☐ Yes ☐ No

If **yes**, check the box next to the facility's 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

ii. 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.

iii. Phase III – New facility subject to 40 CFR Part 125, Subpart N

☐ Yes ☐ No

If **yes**, check the box next to the facility's 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 the CWIS latitude and 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

NOTE: Item 13 is required only for existing permitted facilities.

13. PERMIT CHANGE REQUESTS (Instructions, Pages 49-50)

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.

Enterprise is requesting to increase utility wastewater daily average flow rate to 0.60 MGD and the daily maximum flow rate to 0.90 MGD via Outfall 008.

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

☐ Yes ☒ No

If **yes**, list and discuss the requested changes.

Click to enter text.

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

☐ Yes ☒ No

If **yes**, list and discuss the requested changes.

Click to enter text.

Worksheet 1.0
EPA Effluent Guidelines

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).

1. CATEGORICAL INDUSTRIES (Instructions, Pages 50-52)

Is this facility subject to any of the 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 in the table below.

40 CFR Effluent Guidelines

Industry	40 CFR Part
N/A All process wastewater and first flush stormwater will be routed to adjacent/co-located Enterprise facility authorized under TPDES Permit No. WQ0005014000 (a 40 CFR 414 categorical facility) facility for wastewater treatment and disposal.	

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

Production Data

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

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

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

Percentages of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metal	Appendix A – Cyanide
N/A			

c. **Refineries (40 CFR Part 419)**

Provide the applicable subcategory and a brief justification.

N/A

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.

Click to enter text

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

Worksheet 2.0
Pollutant Analyses Requirements

Notes and Additional Information

Samples collected at Outfall 008 were analyzed by the following laboratory to produce data included in Worksheet 2.0. The laboratory information is listed below:

Eurofins Xenco
Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
281-240-4200

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

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.

1. LABORATORY ACCREDITATION (Instructions, Page 56)

Effective July 1, 2008, all laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the following general exemptions:

a. The laboratory is an in-house laboratory and is:
   i. periodically inspected by the TCEQ; or
   ii. located in another state and is accredited or inspected by that state; or
   iii. performing work for another company with a unit located in the same site; or
   iv. performing pro bono work for a governmental agency or charitable organization.

b. The laboratory is accredited under federal law.

c. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.

d. The laboratory supplies data for which the TCEQ does not offer accreditation.

Review *30 TAC Chapter 25* for specific requirements. The following certification statement shall be signed and submitted with every application. See Instructions, Page 34, for a list of approved signatories.

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

_____

(Signature)

2. GENERAL TESTING REQUIREMENTS (Instructions, Pages 56-58)

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): 10/6/2023 – 11/1/2023

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:** N/A

3. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 58-69)

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

TABLE 1 and TABLE 2 (Instructions, Page 58)

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

Table 1 for Outfall No.: 008

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)	2.68	4.95	3.19	5.72
CBOD (5-day)	2.45	2.67	2.77	2.86
Chemical oxygen demand	54.0	80.0	90.0	88.0
Total organic carbon	8.34	9.96	15.0	21.2
Dissolved oxygen	11.1 HF	11.3 HF	11.2 HF	11.4 HF
Ammonia nitrogen	<0.0510 F1	0.0860 J	0.0717 J	<0.0510
Total suspended solids	11.7	20.0	<8.00	848
Nitrate nitrogen	0.524	0.643 J	0.469	0.273
Total organic nitrogen	2.18	<0.0614	2.41	<0.614
Total phosphorus	0.304	0.218	0.237	0.0419
Oil and grease	<1.85	1.60 J	<1.57	<1.57
Total residual chlorine	0.28	0.34	0.22	0.19
Total dissolved solids	1820	1210	1660	2020
Sulfate	521	342	477	440
Chloride	245	246	272	269
Fluoride	1.38	<1.00	1.99	1.20
Total alkalinity (mg/L as CaCO3)	231	304	273	291
Temperature (°F)	24.2	28.7	28.0	18.6
pH (standard units)	8.6	8.6	8.4	8.8

Table 2 for Outfall No.: 008

Samples are (check one): ☒ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	128	182	150	233	2.5
Antimony, total	<1.05	1.33 J	1.38 J	1.06 J	5
Arsenic, total	15.2	12.1	9.97	10.0	0.5
Barium, total	336	214	252	294	3
Beryllium, total	<0.148	<0.148	<0.148	<0.148	0.5
Cadmium, total	<0.0850	<0.0850	<0.258	<0.258	1
Chromium, total	2.15 J	4.54 B	4.78	2.67 J	3
Chromium, hexavalent	<2.00	<2.00	<2.00	<2.00	3
Chromium, trivalent	2.15 J	4.54 J	4.78 J	2.67 J	N/A
Copper, total	4.07	4.07	3.89 J	5.17	2
Cyanide, available	<0.00233	0.00322 J	0.00975	<0.00233	2/10
Lead, total	0.292 J	0.402 J	0.313 J	0.424 J	0.5
Mercury, total	0.00576	0.00322	0.00150	0.00388	0.005/0.0005
Nickel, total	9.86	9.05	10.4	11.3	2
Selenium, total	5.46	5.16	2.46	1.97 J	5
Silver, total	<0.118	<0.118	<0.118	<0.118	0.5
Thallium, total	<0.0960	<0.0960	<0.215	<0.215	0.5
Zinc, total	121	197	1900	3640	5.0

Definitions of Qualifiers:

J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
F1	MS and/or MSD recovery exceeds control limits.
B	Compound was found in the blank and sample.

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.: 008 – N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

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
1,1-Dichloroethene [1,1-Dichloroethylene]					10
Dichloromethane [Methylene chloride]					20
1,2-Dichloropropane					10
1,3-Dichloropropene [1,3-Dichloropropylene]					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
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
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)

i. 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

ii. 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)

i. 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

ii. 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.: 008 – N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

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 which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: Click to enter text.

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*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.: 008

Samples are (check one): ☒ **Composites** ☐ **Grabs**

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	☐	☒					400
Color (PCU)	☐	☒					—
Nitrate-Nitrite (as N)	☐	☒					—
Sulfide (as S)	☐	☒					—
Sulfite (as SO_3)	☐	☒					—
Surfactants	☐	☒					—
Boron, total	☐	☒					20
Cobalt, total	☐	☒					0.3
Iron, total	☒	☐	0.176	0.214	0.198	0.290	7
Magnesium, total	☐	☒					20
Manganese, total	☐	☒					0.5
Molybdenum, total	☐	☒					1
Tin, total	☐	☒					5
Titanium, total	☐	☒					30

* Indicate units if different from µg/L.

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.: 008 – N/A : Volatile Compounds

Samples are (check one): ☐ Composites ☐ Grabs

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 008 – N/A : Acid Compounds

Samples are (check one): ☐ Composites ☐ Grabs

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

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 008 – N/A : Base/Neutral Compounds

Samples are (check one): ☐ Composites ☐ Grabs

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
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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
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
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.: 008 – N/A : Pesticides

Samples are (check one): ☐ Composites ☐ Grabs

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
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
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 60-61)

a. 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

b. 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.: 008 – N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

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

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

☐ Yes ☒ No

b. 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.: 008 – N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method

Worksheet 4.0
Receiving Waters

WORKSHEET 4.0
RECEIVING WATERS

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

1. DOMESTIC DRINKING WATER SUPPLY (Instructions, Page 81)

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:

i. The legal name of the owner of the drinking water supply intake: Click to enter text.

v. 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.

2. DISCHARGE INTO TIDALLY INFLUENCED WATERS (Instructions, Page 81)

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: N/A 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: Click to enter text.

3. CLASSIFIED SEGMENT (Instructions, Page 81)

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

☐ Yes ☒ No

If **yes**, stop here. It is not necessary to 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.

4. DESCRIPTION OF IMMEDIATE RECEIVING WATERS (Instructions, Page 82)

a. Name of the immediate receiving waters: Unnamed ditch

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

☐ Lake or Pond
- Surface area (acres): Click to enter text.
- Average depth of the entire water body (feet): Click to enter text.
- Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.

☒ Man-Made Channel or Ditch
☐ Stream or Creek
☐ Freshwater Swamp or Marsh
☐ Tidal Stream, Bayou, or Marsh
☐ Open Bay
☐ Other, specify: Click to enter text.

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

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

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

☒ Intermittent (dry for at least one week during most years)
☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)
☐ Perennial (normally flowing)

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

☐ USGS flow records
☒ personal observation
☐ historical observation by adjacent landowner(s)
☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: Cedar Bayou Above Tidal, Segment No. 0902

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

☒ Yes ☐ No

If **yes**, describe how: The unnamed ditch flows west from the facility property, thence to Cedar Bayou Above Tidal Segment No. 0902. Approximately 11 miles downstream of the confluence with Cedar Bayou, other continuous discharges increase the base flow in Cedar Bayou.

f. General observations of the water body during normal dry weather conditions: Standing water present in ditch, flow from TPDES Permit WQ0005014000 Outfall 001 only.

Date and time of observation: 7/20/2023 12:30 PM

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

☐ Yes ☒ No

If **yes**, describe how: Click to enter text.

5. GENERAL CHARACTERISTICS OF WATER BODY (Instructions, Page 82)

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

- ☐ oil field activities
- ☐ agricultural runoff
- ☒ upstream discharges
- ☐ urban runoff
- ☐ septic tanks
- ☒ other, specify: Road runoff, industrial stormwater and process wastewater from upstream discharges

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

- ☐ livestock watering
- ☐ non-contact recreation
- ☐ domestic water supply
- ☐ contact recreation
- ☐ fishing
- ☐ industrial water supply
- ☐ irrigation withdrawal
- ☐ navigation
- ☐ picnic/park activities
- ☒ other, specify: Conveys runoff from other properties, parking, and roadway runoff.

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

- ☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional
- ☐ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored
- ☒ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid
- ☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

Worksheet 7.0
Stormwater Discharges Associated with Industrial Activities

Notes and Additional Information

Samples collected at Outfall 007 were analyzed by the following laboratory to produce data included in Worksheet 7.0. The laboratory information is listed below:

Eurofins Xenco
Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
281-240-4200

WORKSHEET 7.0
STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES

This worksheet **is required** for all TPDES permit applications requesting individual permit coverage for discharges consisting of **either**: 1) solely of stormwater discharges associated with industrial activities, as defined in *40 CFR § 122.26(b)(14)(i-xi)*, **or** 2) stormwater discharges associated with industrial activities and any of the listed allowable non-stormwater discharges, as defined in the MSGP (TXR05000), Part II, Section A, Item 6.

Discharges of stormwater as defined in *40 CFR § 122.26 (b)(13)* are not required to obtain authorization under a TPDES permit (see exceptions at *40 CFR §§ 122.26(a)(1)* and *(9)*). Authorization for discharge may be required from a local municipal separate storm sewer system.

1. APPLICABILITY (Instructions, Page 90)

Do discharges from any of the existing/proposed outfalls consist either 1) solely of stormwater discharges associated with industrial activities **or** 2) stormwater discharges associated with industrial activities and any of the allowable non-stormwater discharges?

☒ Yes ☐ No

If **no**, stop here. If **yes**, proceed as directed.

2. STORMWATER OUTFALL COVERAGE (Instructions, Page 91)

List each existing/proposed stormwater outfall at the facility and indicate which type of authorization covers or is proposed to cover discharges.

Authorization coverage

Outfall	Authorized Under MSGP	Authorized Under Individual Permit
007	☐	☒
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

If **all** existing/proposed outfalls which discharge stormwater associated with industrial activities (and any of the allowable non-stormwater discharges) are **authorized under the MSGP**, **stop** here.

If **seeking authorization** for any outfalls which discharge stormwater associated with industrial activities (and any of the allowable non-stormwater discharges) **under an individual permit**, **proceed**.

NOTE: The following information is required for each existing/proposed stormwater outfall for which the facility is seeking individual permit authorization under this application.

3. SITE MAP (Instructions, Page 91)

Attach a site map or maps (drawn to scale) of the entire facility with the following information.

- the location of each stormwater outfall to be covered by the permit
- an outline of the drainage area that is within the facility's boundary and that contributes stormwater to each outfall to be covered by the permit
- connections or discharge points to municipal separate storm sewer systems
- locations of all structures (e.g. buildings, garages, storage tanks)
- structural control devices that are designed to reduce pollution in discharges of stormwater associated with industrial activities
- process wastewater treatment units (including ponds)
- bag house and other air treatment units exposed to stormwater (stormwater runoff, snow melt runoff, and surface runoff and drainage)
- landfills; scrapyards; surface water bodies (including wetlands)
- vehicle and equipment maintenance areas
- physical features of the site that may influence discharges of stormwater associated with industrial activities or contribute a dry weather flow
- locations where spills or leaks of reportable quality (as defined in *30 TAC § 327.4*) have occurred during the three years before this application was submitted to obtain coverage under an individual permit
- processing areas, storage areas, material loading/unloading areas, and other locations where significant materials are exposed to stormwater (stormwater runoff, snow melt runoff, and surface runoff and drainage)

☒ Check the box to confirm all the above information was provided on the facility site map(s).

Attachment: I

4. FACILITY/SITE INFORMATION (Instructions, Pages 91-92)

a. Provide the area of impervious surface and the total area drained by each stormwater outfall requested for authorization by this permit application.

Impervious Surfaces

Outfall	Area of Impervious Surface (include units)	Total Area Drained (include units)
007	~40 acres	~50 acres

b. Provide the following local area rainfall information and the source of the information.

Wettest month: June

Average rainfall for wettest month (total inches): 6.5

25-year, 24-hour rainfall (inches): 10.01

Source: USGS TP 40 Publication

c. Attach an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation. **Attachment:**H and Tech Report page 1

d. Attach narrative descriptions of the industrial processes and activities involving the materials in the above-listed inventory that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff (see instructions for guidance). **Attachment:** H

e. Describe any BMPs and controls the facility uses/proposes to prevent or effectively reduce pollution in stormwater discharges from the facility: Attachment H

5. LABORATORY ACCREDITATION CERTIFICATION (Instructions, Page 92)

Effective July 1, 2008, all laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the following general exemptions:

a. The laboratory is an in-house laboratory and is:
   i. periodically inspected by the TCEQ; or
   ii. located in another state and is accredited or inspected by that state; or
   iii. performing work for another company with a unit located in the same site; or
   vi. performing pro bono work for a governmental agency or charitable organization.

b. The laboratory is accredited under federal law.

c. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.

d. The laboratory supplies data for which the TCEQ does not offer accreditation.

Review *30 TAC Chapter 25* for specific requirements. The following certification statement shall be signed and submitted with every application. See Instructions, Page 32, for a list of approved signatories.

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

_____

(Signature)

6. POLLUTANT ANALYSIS (Instructions, Pages 92-93)

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): 10/6/2023

b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Complete Table 17 as directed on page 92 of the Instructions.

Table 17 Pollutant Analysis for Outfall No.: 007

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
pH (standard units)	9.0	—		—	1	—
Total suspended solids	5.47				1	—
Chemical oxygen demand	10.0 J				1	—
Total organic carbon	6.01				1	—
Oil and grease	<1.85				1	—
Arsenic, total	0.0023 J				1	0.0005
Barium, total	0.0853				1	0.003
Cadmium, total	<0.000085				1	0.001
Chromium, total	0.00221 J				1	0.003
Chromium, trivalent	0.00221 J				1	—
Chromium, hexavalent	<0.00200				1	0.003
Copper, total	0.00140 J				1	0.002
Lead, total	<0.00140				1	0.0005
Mercury, total	0.00000113				1	0.000005
Nickel, total	0.00144 J				1	0.002
Selenium, total	0.000984 J				1	0.005
Silver, total	<0.000118				1	0.0005
Zinc, total	0.00424				1	0.005

* Taken during first 30 minutes of storm event
** Flow-weighted composite sample

d. Complete Table 18 as directed on pages 92-94 of the Instructions.

Table 18 Pollutant Analysis for Outfall No.: 007

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled
Aluminum	0.0714				1
Iron	0.0263				1
Nitrate Nitrite as N	0.507				1
Dissolved Oxygen	11.3 HF				1
Total Phosphorus	0.0168 J				1

* Taken during first 30 minutes of storm event
** Flow-weighted composite sample

Attachment: Click to enter text

Definitions of Qualifiers:

J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

7. STORM EVENT DATA (Instructions, Page 94)

Provide the following data for the storm event(s) which resulted in the maximum values for the analytical data submitted:

Date of storm event: N/A – sample collected from stormwater retention basin

Duration of storm event (minutes): Click to enter text.

Total rainfall during storm event (inches): Click to enter text.

Number of hours the between beginning of the storm measured and the end of the previous measurable storm event (hours): Click to enter text.

Maximum flow rate during rain event (gallons/minute): Click to enter text.

Total stormwater flow from rain event (gallons): Click to enter text.

Provide a description of the method of flow measurement or estimate: Click to enter text.

Attachment A
Copy of Fee Submittal

Admin Report 1.0 – 1.e., Pg. 2

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:	582EA000603047
Date:	03/21/2024 02:45 PM
Payment Method:	CC - Authorization 0000086396
ePay Actor:	SARA E DOWNS
Actor Email:	sedowns@eprod.com
IP:	165.225.37.97
TCEQ Amount:	$350.00
Texas.gov Price:	$358.13*

* 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:	SARA E DOWNS
Company:	ENTERPRISE PRODUCTS
Address:	1100 LOUSIANA, HOUSTON, TX 77002 5527
Phone:	713-381-4551

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
697785	WW PERMIT - MINOR FACILITY NOT SUBJECT TO 40 CFR 400-471 - MAJOR AMENDMENT		$300.00
697786	30 TAC 305.53B WQ NOTIFICATION FEE		$50.00
		TCEQ Amount:	$350.00

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.

Attachment B
Core Data Form

Admin Report 1.0 – 2.c., Pg. 3

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 **Major Amdnement**

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 603211277		**RN 109438028**

SECTION II: Customer Information

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

☐ 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:*

Enterprise Products Operating 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)*
0800838920	1260405396	26-0430539	

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

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher

13. Independently Owned and Operated?
☒ **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:

P.O. Box 4324

City	Houston	**State**	TX	**ZIP**	77210	**ZIP + 4**	

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	environmental@eprod.com

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(713) 381-6595		( ) -

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.)*

Mont Belvieu Hatcherville Complex

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	12901 Hatcherville Road							
	City	Baytown	**State**	TX	**ZIP**	77521	**ZIP + 4**	
24. County	Chambers							

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:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	52'	13.14"	-94	55'	21.00"

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)
2869	1321	325199	211112

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

Chemical manufacturing operations

34. Mailing Address:	**P.O. Box 4324**							
	City	**Houston**	**State**	**TX**	**ZIP**	**77210**	**ZIP + 4**	
35. E-Mail Address:	**environmental@eprod.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(713) 381-6595		( ) -

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
☐ 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:
	WQ0005267000			

SECTION IV: Preparer Information

40. Name:	Daniel Bissonnette	41. Title:	Supervisor, Environmental Permitt

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(713) 381-3669		( ) -	dmbissonnette@eprod.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:	Enterprise Products Operating LLC	Job Title:	Senior Director
Name *(In Print)*:	Bradley J. Cooley	Phone:	(713) 381- 6595
Signature:		Date:	3/22/24

Attachment C
Public Involvement Plan

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☐ New Permit or Registration Application

☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☐ Considered to have significant public interest, **and**

☒ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☒ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

No anticipated interest: no public comments received on past permitting actions for this facility.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

(City)

(County)

(Census Tract)
Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☐ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☐ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☐ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

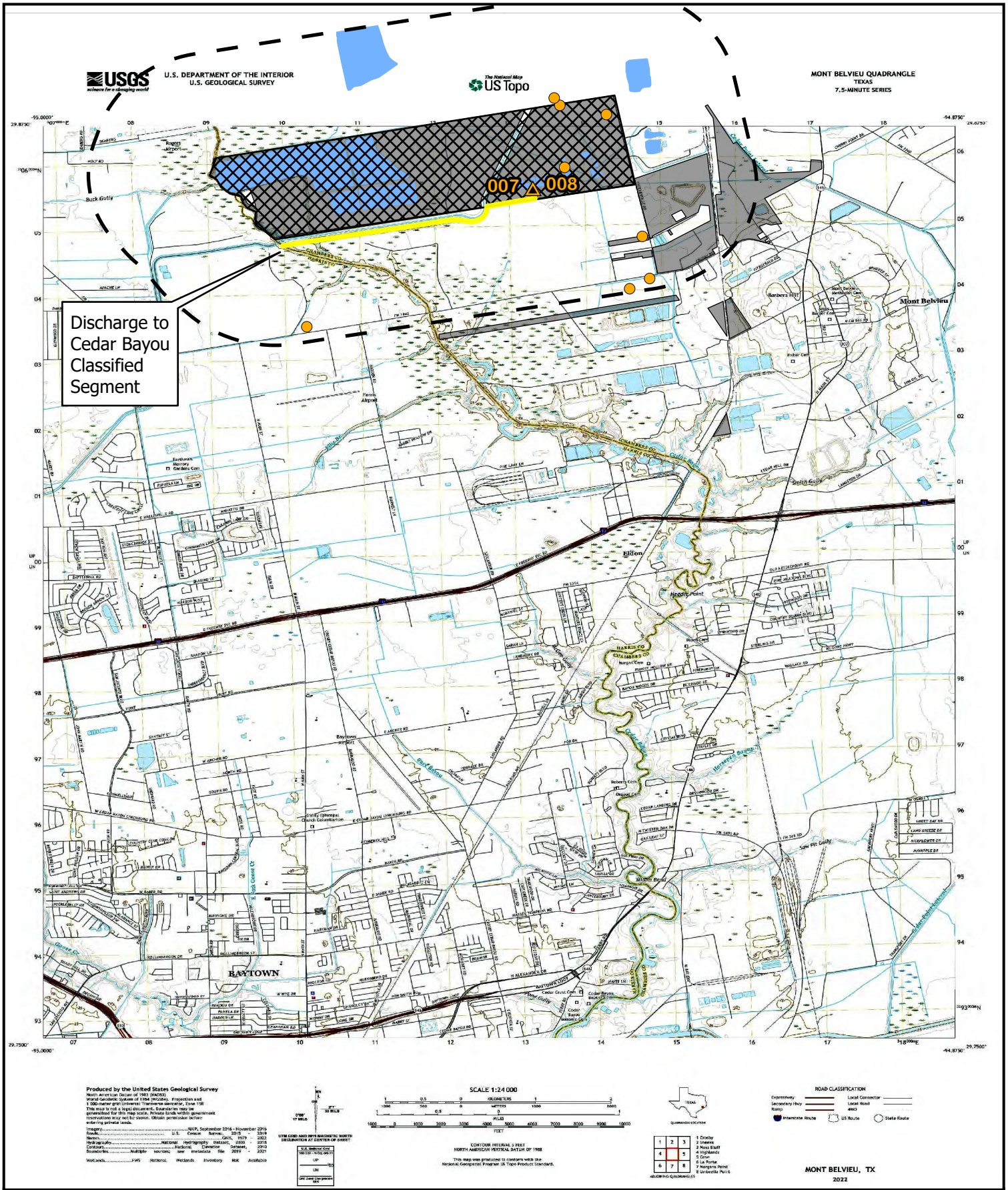
☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

Attachment D
USGS Maps

Admin Report 1.0 – 9.b., Pg. 7



Basemap: 1:24k USGS Topographic Quadrangle, "Mont Belvieu," (2022)

- Outfalls
- Public Water Supply Wells
- Discharge Route
- One Mile Facility Boundary
- Facility Boundary
- Ponds
- Enterprise Property

BURNS McDONNELL

Attachment D
USGS Map
Enterprise Products Operating LLC
Chambers County, Texas

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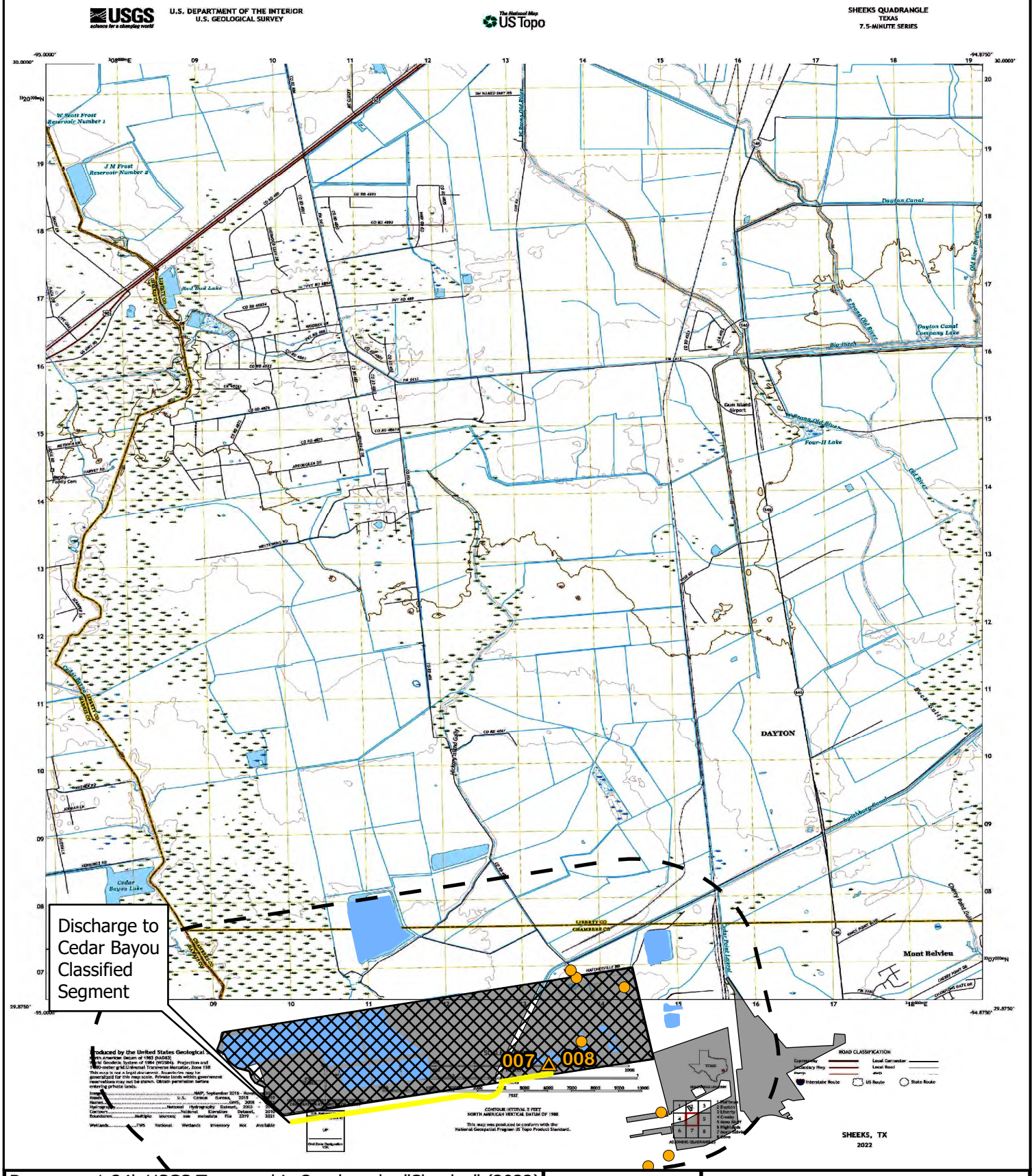
Source: ESRI; TCEQ; USGS; Burns & McDonnell Engineering Company, Inc.

Issued: 3/6/2024



Basemap: 1:24k USGS Topographic Quadrangle, "Sheeks," (2022)

- Outfalls
- Public Water Supply Wells
- Discharge Route
- One Mile Facility Boundary
- Facility Boundary
- Ponds
- Enterprise Property

BURNS McDONNELL

Attachment D
USGS Map
Enterprise Products Operating LLC
Chambers County, Texas

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Service Layer Credits:

Source: ESRI; TCEQ; USGS; Burns & McDonnell Engineering Company, Inc.

Issued: 3/6/2024

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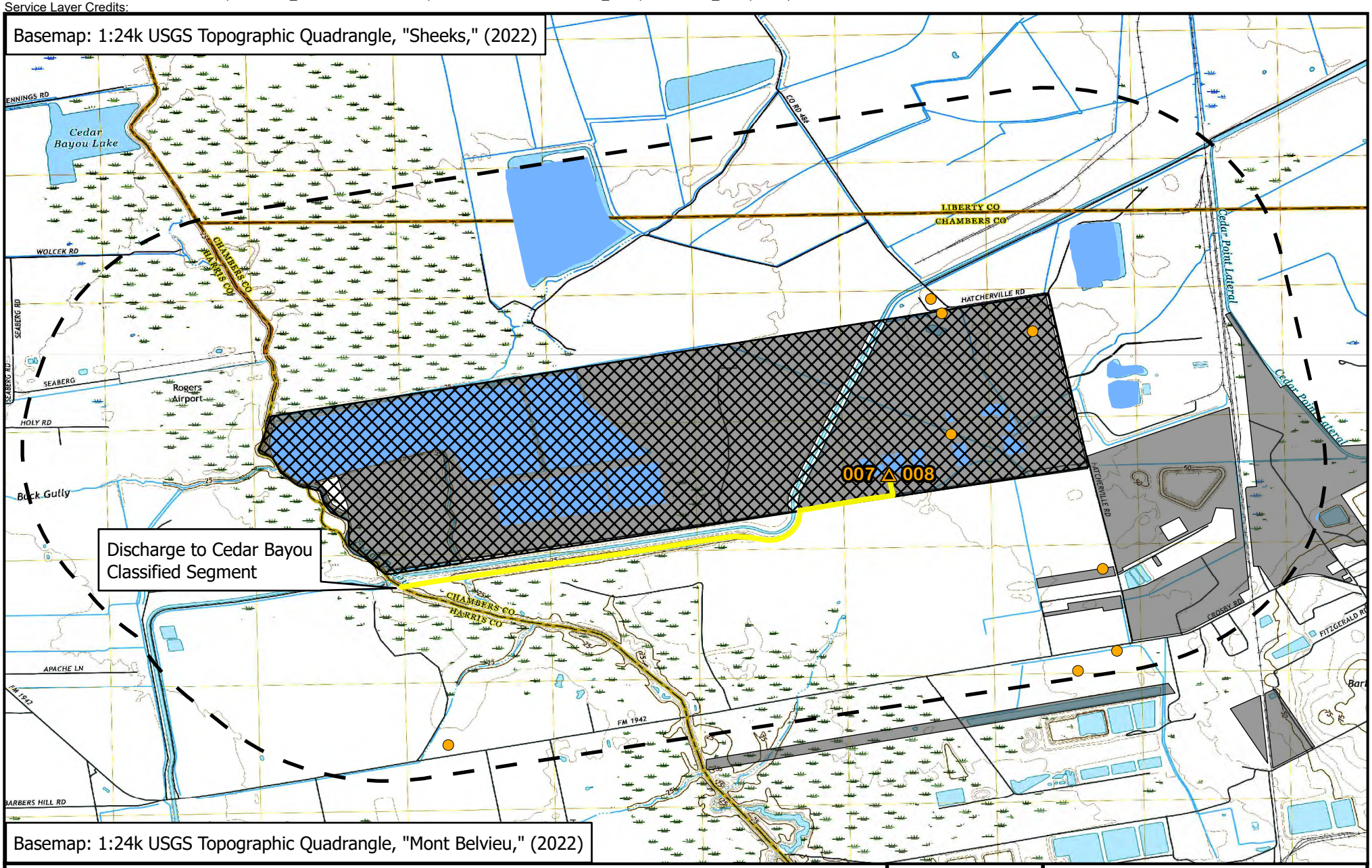


- Outfalls
- Public Water Supply Wells
- Discharge Route
- One Mile Facility Boundary
- Facility Boundary
- Ponds
- Enterprise Property

BURNS McDONNELL

Attachment D
USGS Map
Enterprise Products Operating LLC
Chambers County, Texas

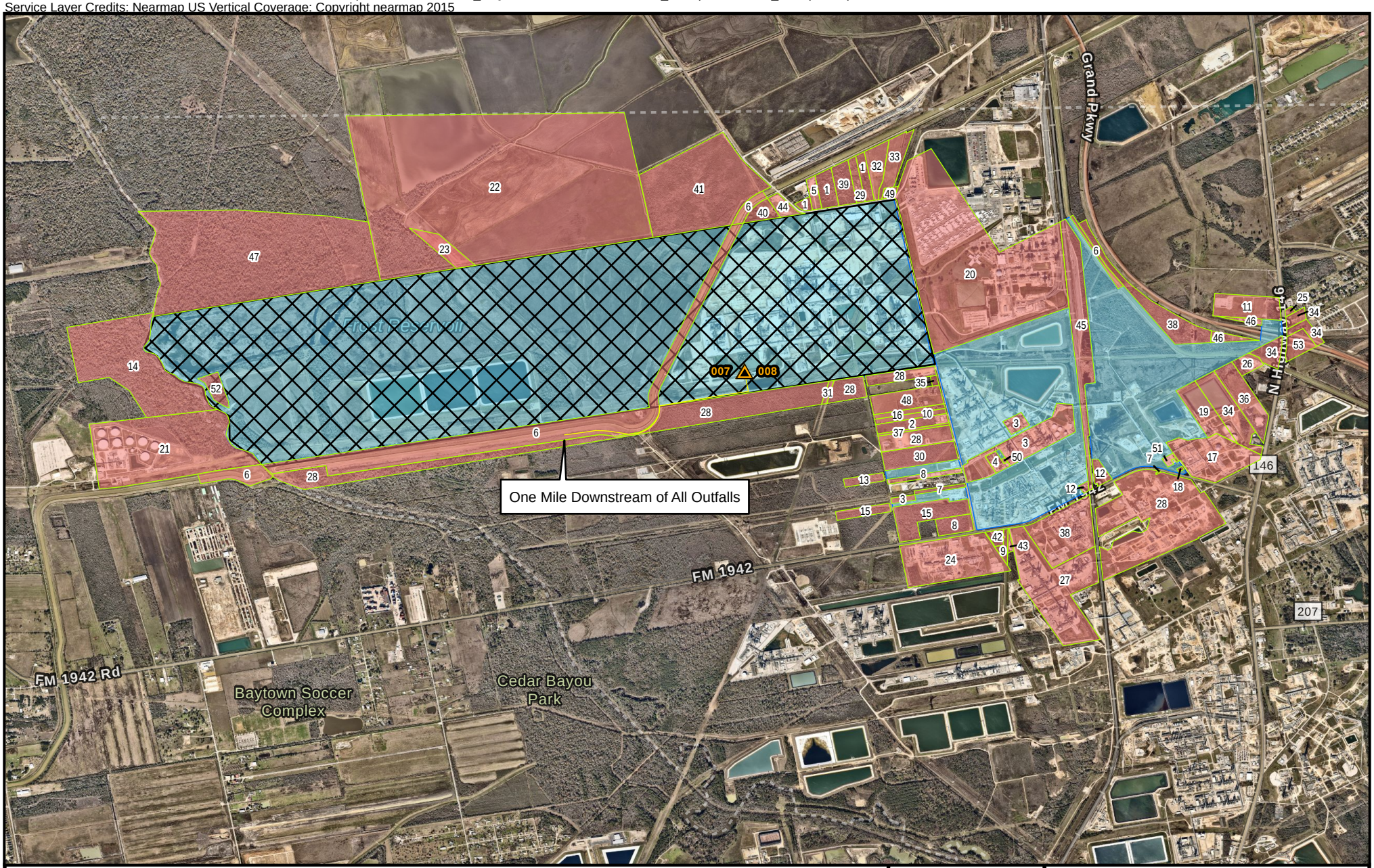
Source: ESRI; TCEQ; USGS; Burns & McDonnell Engineering Company, Inc.

Issued: 3/6/2024

Attachment E
Adjacent Landowner Information

Admin Report 1.1 – 1.a., Pg.11

Path: C:\Users\tmduran\OneDrive - Burns & McDonnell\Desktop\WORKING\159548_WQ5267RENEW\APRX\159548_Enterprise\159548_Enterprise.aprx tmduran 1/29/2024
Service Layer Credits: Nearmap US Vertical Coverage: Copyright nearmap 2015



Outfalls
Discharge Route
Facility Boundary
Adjacent Landowners
Enterprise Property

NORTH

0 3,500 7,000
Feet

BURNS McDONNELL

Attachment E
Affected Landowner Map
Enterprise Products Operating LLC
Chambers County, Texas

Source: ESRI; Harris County Appraisal District; Chambers County Appraisal District; Burns & McDonnell Engineering Company, Inc.

Issued: 1/29/2024

Attachment E

Adjacent Landowner Information

MAP ID	NAME	ADDRESS	CITY	STATE	ZIP
1	ADNAR HOLDINGS LLC	1100 LOUISIANA STREET SUITE 1000	HOUSTON	TX	77002
2	AYCOCK CHARLES R & JEFF H	P.O. BOX 283	MONT BELVIEU	TX	77580
3	BELVIEU ENVIRONMENTAL FUELS LLC	P O BOX 4018	HOUSTON	TX	77210-4018
4	BELVIEU FRACTIONATOR PARTNERS	P O BOX 4324	HOUSTON	TX	77210-4324
5	BLUEBONNET PETROCHEMICAL SOLUTIONS PLLC	6450 N MAIN ST	BAYTOWN	TX	77521
6	COASTAL WATER AUTHORITY	1801 MAIN STREET #800	HOUSTON	TX	77002
7	CHAMBERS COUNTY	P O BOX 939	ANAHUAC	TX	77514
8	CHEMICALS INCORPORATED	12321 HATCHERVILLE RD	BAYTOWN	TX	77523
9	CHEVRON PHILLIPS CHEM CO LP	10001 SIX PINES DR ROOM 7048B	THE WOODLANDS	TX	77380
10	ULRICH JOE CARROLL	6011 FM 1942	BAYTOWN	TX	77523
11	DCP SAND HILLS PIPELINE LLC	6900 E LAYTON AVE	DENVER	CO	80237-3658
12	DOW HYDROCARBONS & RESOURCES	332 SH 332 EAST	LAKE JACKSON	TX	77566
13	ULRICH BENJAMIN T	314 WELFORD LN	HIGHLANDS	TX	77562
14	LONE STAR NGL MONT BELVIEU LP	1300 MAIN ST	HOUSTON	TX	77002
15	DUNAWAY MAVIS C	13218 SEABERG	CROSBY	TX	77532-7160
16	EHRLICH SABRINA SUZANNE	12727 HATCHERVILLE RD	BAYTOWN	TX	77521
17	ENTERPRISE PRODUCTS CO	P O BOX 4018	HOUSTON	TX	77210-4018
18	ENTERPRISE PRODUCTS TEXAS OPERATING	PO BOX 4018	HOUSTON	TX	77210-4018
19	ENTPRO LIMITED	P O BOX 4018	HOUSTON	TX	77210-4018
20	EXXON MOBIL CORP	P O BOX 64106	THE WOODLANDS	TX	77387
21	LONE STAR NGL PIPELINE LP	1300 MAIN ST	HOUSTON	TX	77002
22	FVL LTD	2930 REVERE ST STE. 300	HOUSTON	TX	77098
23	FVL PROPERTIES LLC	2930 REVERE ST STE. 300	HOUSTON	TX	77098
24	GULF COAST FRACTIONATORS	PO BOX 421959	HOUSTON	TX	77242-1959
25	HARRIS ROBERT & PAULA	PO BOX 1030	MONT BELVIEU	TX	77580
26	KPL NGL PIPELINE LP	100 WEST FIFTH STREET	TULSA	OK	74103
27	LONE STAR NGL FRACTIONATORS LLC	1300 MAIN ST	HOUSTON	TX	77002
28	LONE STAR NGL MONT BELVIEU LP	1300 MAIN ST	HOUSTON	TX	77002-6803
29	MCCAWLEY TIMOTHY	11618 HATCHERVILLE RD	BAYTOWN	TX	77521-9883
30	MERCER LINDA KAY GATES	1011 WONDER WORLD DR APT 1715	SAN MARCOS	TX	78666
31	MISSOURI PACIFIC RR CO	1400 DOUGLAS STREET STOP 1640	OMAHA	NE	68179-1640
32	MOGONYE PATRICIA E	13905 HATCHERVILLE RD	BAYTOWN	TX	77521
33	MOGONYE STEPHEN & TRISH	13905 HATCHERVILLE RD	BAYTOWN	TX	77521
34	MONT BELVIEU CAVERNS LLC	PO BOX 4018	HOUSTON	TX	77210-4018
35	TROXELL TONYA & LOWRANCE	P O BOX 656	WINNIE	TX	77665
36	MY HILLSIDE CHURCH INC	PO BOX 865	MONT BELVIEU	TX	77580
37	OCCIDENTAL CHEMICAL CORP	P O BOX 27570	HOUSTON	TX	77227-7570
38	ONEOK MONT BELVIEU STORAGE CO LLC	100 WEST FIFTH STREET	TULSA	OK	74103
39	PITTMAN BRANDON & KELLY	10402 DEVINWOOD DR	BAYTOWN	TX	77523
40	POOL SHAWN	14443 HATCHERVILLE ROAD	BAYTOWN	TX	77521

41	REPUBLIC INDUSTRIAL AND ENERGY SOLUTIONS LLC	18500 N ALLIED WAY	PHOENIX	AZ	85054
42	WEST TEXAS LPG PIPELINE LP	DALROCK RD	ROWLETT	TX	75088
43	SANDPOINT TEXAS LLC	2601 SCOTT AVE, STE 400	FORT WORTH	TX	76103
44	SCHIMMING MARK BRYAN	14442 HATCHERVILLE ROAD	BAYTOWN	TX	77523
45	UNION PACIFIC RAILROAD CO	1400 DOUGLAS STREET STOP 1640	OMAHA	NE	68179-1640
46	SPEER COMPANIES LLC	12726 HIDDEN LN	MONT BELVIEU	TX	77523
47	SPEER LIMITED ONE LLC	PO BOX 265	MONT BELVIEU	TX	77580
48	TROXELL CARON SUE & NAPIER LINDA KAY	1920 CR 486	DAYTON	TX	77535
49	SUNOCO PIPELINE LP	1801 MARKET STREET	PHILADELPHIA	PA	19103-7583
50	TARGA DOWNSTREAM LLC	1900 DALROCK ROAD	ROWLETT	TX	75088
51	TE PRODUCTS PIPELINE CO. LP	BOX 4018	HOUSTON	TX	77210-4018
52	TEXAS EXPRESS PIPELINE LLC	PO BOX 4018	HOUSTON	TX	77210-4018
53	TEXAS 146 LLC	5465 PINE RIDGE RD	FORT MYERS	FL	33908

Attachment F
Original Photographs

Admin Report 1.1 – 2., Pg.12

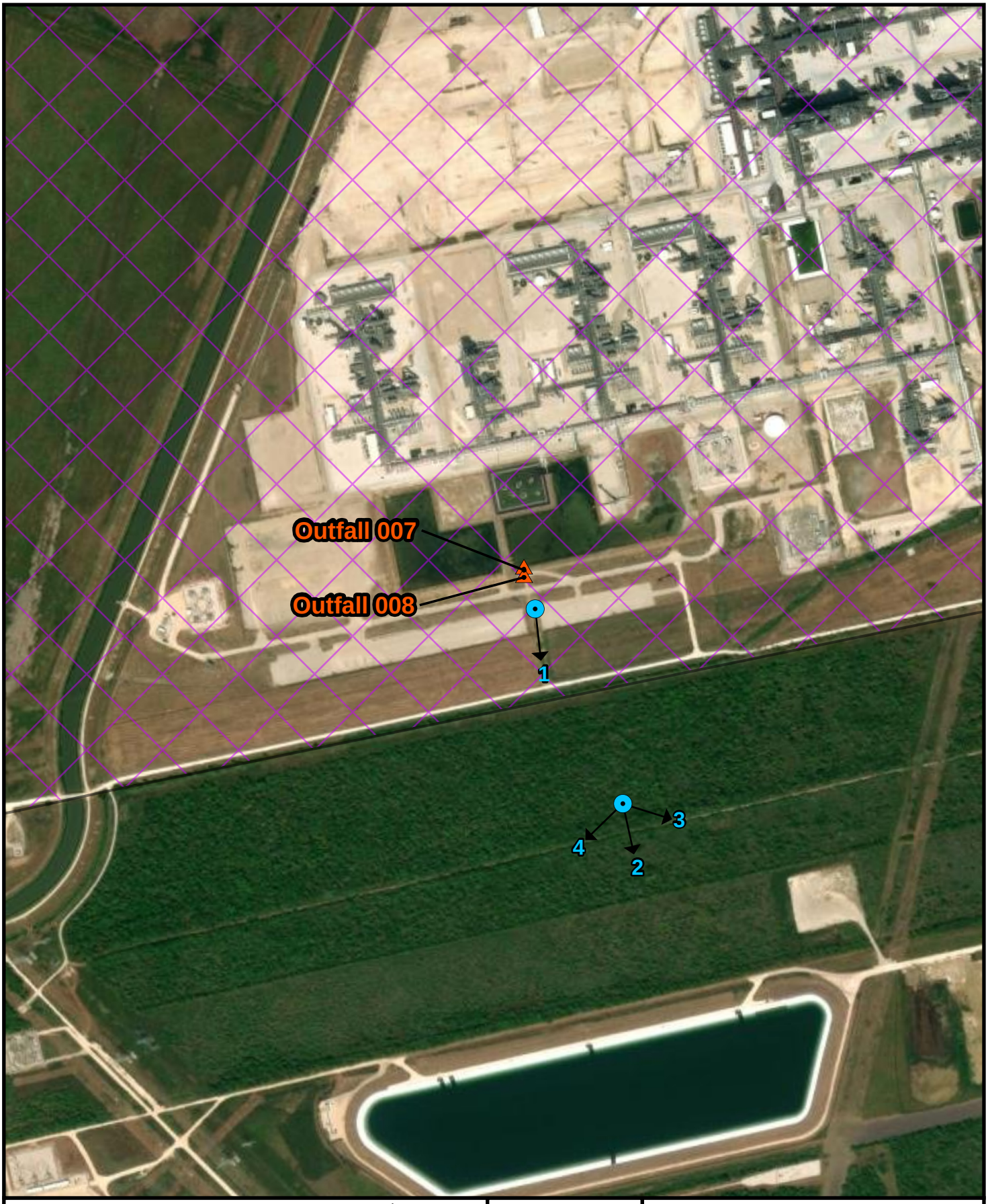


Photo Point and Direction

Outfall Location

Facility Boundary

NORTH

0 300 600

Feet

BURNS McDONNELL

Attachment F
Photo Location Map
Enterprise Products Operating LLC
Chambers County, Texas

Source: Burns & McDonnell Engineering Company, Inc.

Issued: 1/25/2024

Attachment F
Original Photos

Photo 1
Outfalls 007 and 008 looking towards the discharge point

Attachment F
Original Photos

Photo 2
Outfalls 007 and 008 Discharge Point

Attachment F
Original Photos

Photo 3
Outfalls 007 and 008 Discharge point, looking upstream.

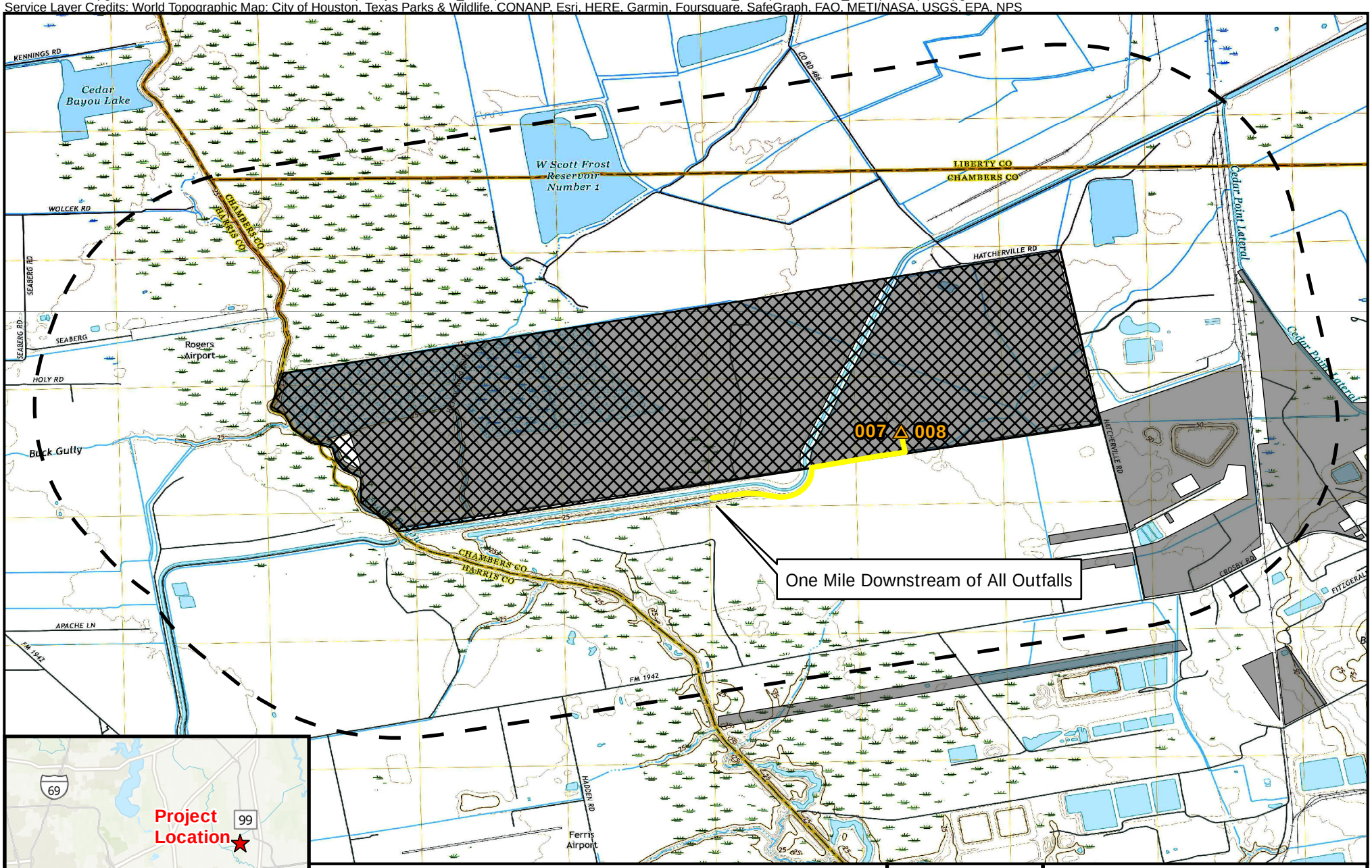
Attachment F
Original Photos

Photo 4
Outfalls 007 and 008 Discharge point, looking downstream.

Attachment G
SPIF Map

SPIF – 8., Pg. 13

Path: C:\Users\dpgreen\OneDrive - Burns & McDonnell\Desktop\Projects\159548_Enterprise\ArcGIS\DataFiles\Databases\159548_Enterprise\159548_Enterprise.aprx dpgreen 9/25/2023
Service Layer Credits: World Topographic Map: City of Houston, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, Foursquare, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



BURNS McDONNELL

Attachment G
SPIF Map
Enterprise Products Operating LLC
Chambers County, Texas

Source: ESRI; USGS; Burns & McDonnell Engineering Company, Inc.

Issued: 9/25/2023

Attachment H
Facility Description

Tech Report 1.0- 1 a., 1.b.- Pg 1

Attachment H
Facility Description

Enterprise Products Operating LLC (Enterprise) operates the Enterprise Mont Belvieu Hatcherville Complex (Complex) located on Hatcherville Road approximately 0.9 miles north of the intersection of the Hatcherville Road with FM 1942 in Mont Belvieu, Chambers County, Texas. The Complex is located on the west side of Hatcherville Road and is bounded on the north and west by the Coastal Water Authority (CWA) canal.

Organic chemicals manufacturing occurs at the Complex, including the production of propylene, ethane, propane, n-butane, isobutane, isobutylene and natural gasoline. The industrial activities at the Complex will fall within Standard Industrial Codes (SIC) 2869 and 1321

The Complex has authorization to discharge under multiple Texas Pollutant Discharge Elimination System (TPDES) Permits: TPDES Permit No. WQ0005014000, TPDES Permit No. WQ0005311000, and TPDES Permit No. WQ0005267000. The process wastewater and contaminated stormwater from the processing units will be combined for treatment in a single wastewater treatment system. The treated effluent from that wastewater treatment system will be managed and discharged under TPDES Permit No. WQ0005014000. This permit authorizes the discharge utility wastewater from fractionation units via Outfall 008 and stormwater for fractionation units, Deisobutanizer (DIB), Isomerization (ISOM) Unit, and the Propane Dehydrogenation (PDH) II Unit via Outfall 007.

PRODUCTION PROCESSES

Major production processes at the Complex covered by this application include the following:

- NGL Frac Units XI, XII, and XIV

  Fractionation (Frac) Units XI, XII, and XIV. This permit application requests authorization to discharge utility wastewater and stormwater from the Frac Units.

  Frac Units are used to separate natural gas liquids (NGL) feed into separate ethane, propane, n-butane, isobutane and gasoline fractions. The Frac Units will not process natural gas. Instead, the facility receives NGLs from upstream gas processing plants at various locations. At the offsite gas processing plants, the lightest hydrocarbon, methane, is removed and shipped off-property via pipeline in a gaseous state. The remaining components (ethane and heavier components) are liquefied into NGL and shipped from the offsite gas plant by pipeline to downstream users.

  The Frac Units receive the incoming NGL streams via pipeline and separate it into pure components such as ethane, propane, mixed butanes, and the C5+ stream often called natural gasoline. These fractionated streams can then be further processed onsite in the DIB or ISOM Units and will be processed onsite Unit or sent off-site via pipeline to local storage caverns or sent directly to downstream customers.

- DIB II, III, and ISOM Unit

  The mixed butane feedstock is brought in by pipeline from underground storage facilities and/or transferred from other processing units within the complex. The DIB II and III Units separate the mixed feed into normal butane (n-butane) and isobutane streams. The normal butane stream is routed to the ISOM Unit, which converts normal butane into isobutane.

Products from the ISOM Unit are typically transferred to the DIB II Unit for separation into normal butane and isobutane. Products are typically transferred via pipeline to local storage caverns or directly to downstream customers.

- PDH II Unit

  The Propane Dehydrogenation (PDH) II Unit will convert propane to propylene using continuous catalyst regeneration (CCR) technology. Propane will be fed to a dehydrogenation reactor system supported by CCR process to regenerate catalyst. Reactor effluent including propylene product and byproducts that include Pressure Swing Adsorption (PSA) tail gas, pentane (C5+ mixture), ethane, butane, and hydrogen will be separated by downtown processes and distributed to customers via pipeline, to existing underground cavern storage, or to other onsite processes.

WASTEWATER GENERATION

Water for the facility will be purchased from the City of Houston via the CWA Canal and is used throughout the facility for industrial purposes. Potable water is provided by groundwater wells. Enterprise will not install or operate a cooling water intake structure (CWIS) associated with this facility.

All process wastewater and first flush stormwater from these units is routed to the wastewater treatment plant covered under TPDES Permit No. WQ0005014000 for treatment and discharge. Any other potentially contaminated stormwater is also be routed to the wastewater treatment plant covered under TPDES Permit No. WQ0005014000 for treatment and discharge, as needed.

Domestic wastewater will be directed to the City of Mont Belvieu Cotton Bayou Wastewater Treatment facility, a permitted POTW, for treatment and permitted discharge.

Currently, there are four wet surface air coolers (WSAC) cooling units that contribute utility blowdown, Frac Units XI and XII each employ two WSACs. Frac Units XIV will also have two WSAC cooling units. Utility blowdown associated with WSACs for Frac Units XI, XII, and XIV will be discharged via Outfall 008.

Outfall 008

Outfall 008 will discharge utility wastewaters, including the following:

- Wet surface air cooler (WSAC) blowdown (reflux and condensate);
- RO Reject;
- Boiler blowdown (there are no permanent boilers on site, but they may be temporarily utilized during maintenance, turnaround, or construction activities);
- Demineralizer neutralization tank effluent;
- Neutralized wastewaters from acid/caustic sumps;
- Air conditioner condensate, compressor condensate, and steam condensate;
- Waterline and fire protection system leaks, tests, and flushings performed during maintenance activities;
- Water treatment wastes; and
- Hydrostatic test waters, from vessels or pipelines not previously in service.

A sampling point will be established to monitor flows to Outfall 008 downstream of the treated water sump but prior to discharge at the final outfall location.

WASTEWATER TREATMENT SYSTEMS

Process wastewater and first flush potentially contaminated stormwater from curbed areas within process areas will be routed to the wastewater treatment systems and discharged via authorized outfalls under TPDES Permit No. WQ0005014000. Utility flows primarily consisting of WSAC blowdown and neutralized wastewaters from acid/caustic sumps will be routed to the Frac Treated Water Sump and will be provided with dechlorination and pH adjustment capacity prior to discharging via Outfall 008.

STORMWATER MANAGEMENT

Outfall 007

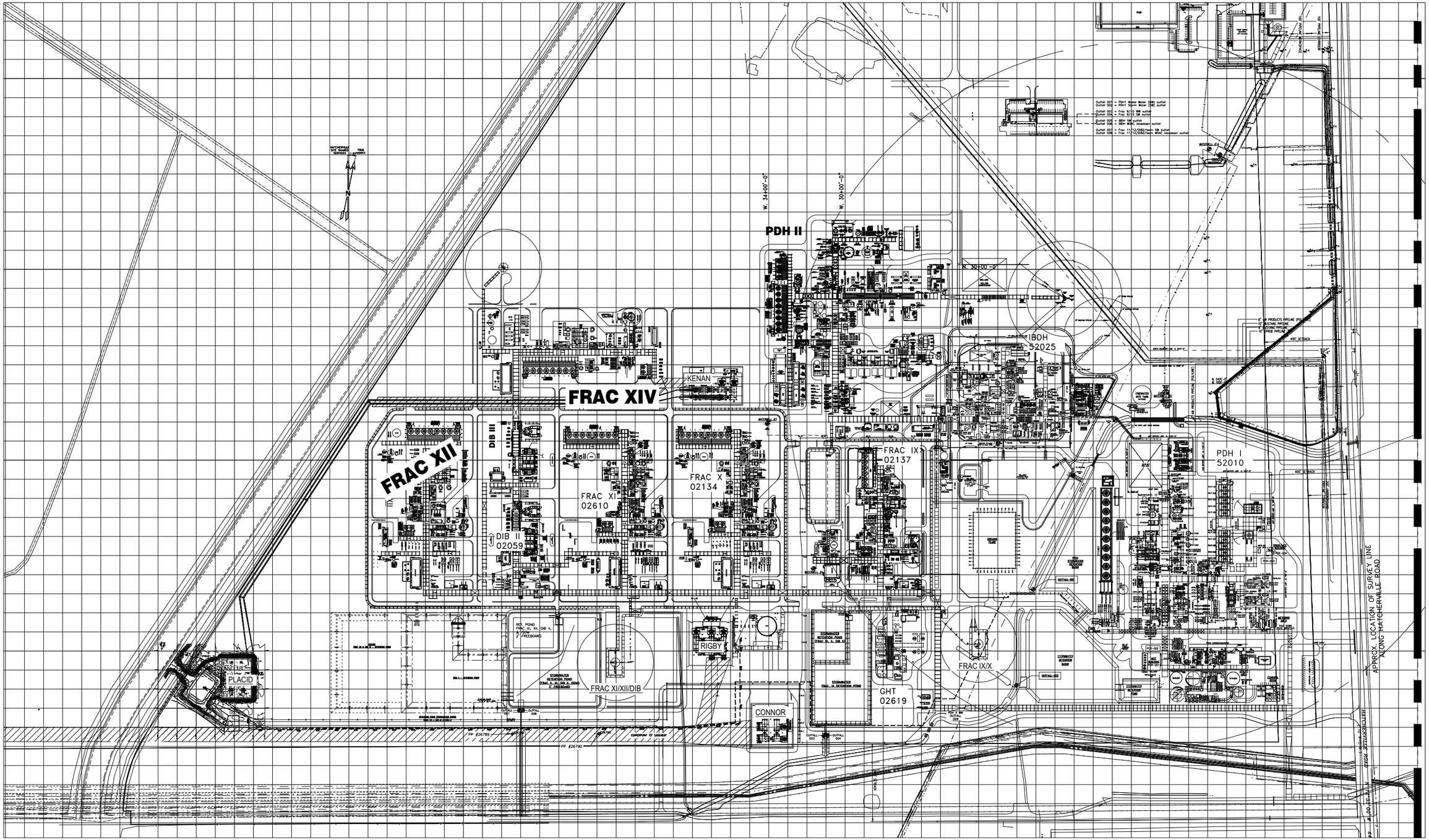
Stormwater from paved areas (non-curbed) of Frac X, XI, XII, XIV, DIB II, III, ISOM, and PDH II Units and post-first flush run-off from process areas is routed to the Paved Area Sump prior to conveyance to the Retention Ponds (lined pond). If the water is free of evidence of contamination, the lined pond can be drained to a second, unlined detention basin. The unlined basin also receives stormwater run-off from unpaved areas in Frac Units, DIB II and III, ISOM, and PDH II Unit. The unlined basin discharges to Outfall 007. In the event of spills or contamination, stormwater can be held in either impoundment. Contaminated water can be routed to the wastewater treatment system and discharged via TPDES Permit No. WQ0005014000 on an as-needed basis. In addition to uncontaminated non-process stormwater, the following non-stormwater discharges (as listed in TCEQ's TPDES MSGP for stormwater) may also be discharged via Outfall 007:

- Discharges from emergency firefighting activities and uncontaminated fire hydrant flushing;
- Potable water sources;
- Irrigation drainage;
- Water from routine external washing of buildings without detergents or chemicals;
- Water from routine washing of pavements in uncontaminated non-process areas of the facility without the use of detergents or other chemicals;
- Uncontaminated air conditioner condensate, compressor condensate, steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
- Uncontaminated water from foundation or foot drains;
- Uncontaminated water used for dust suppression;
- Water from springs or other uncontaminated ground water; and
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, excluding cooling tower blowdown.

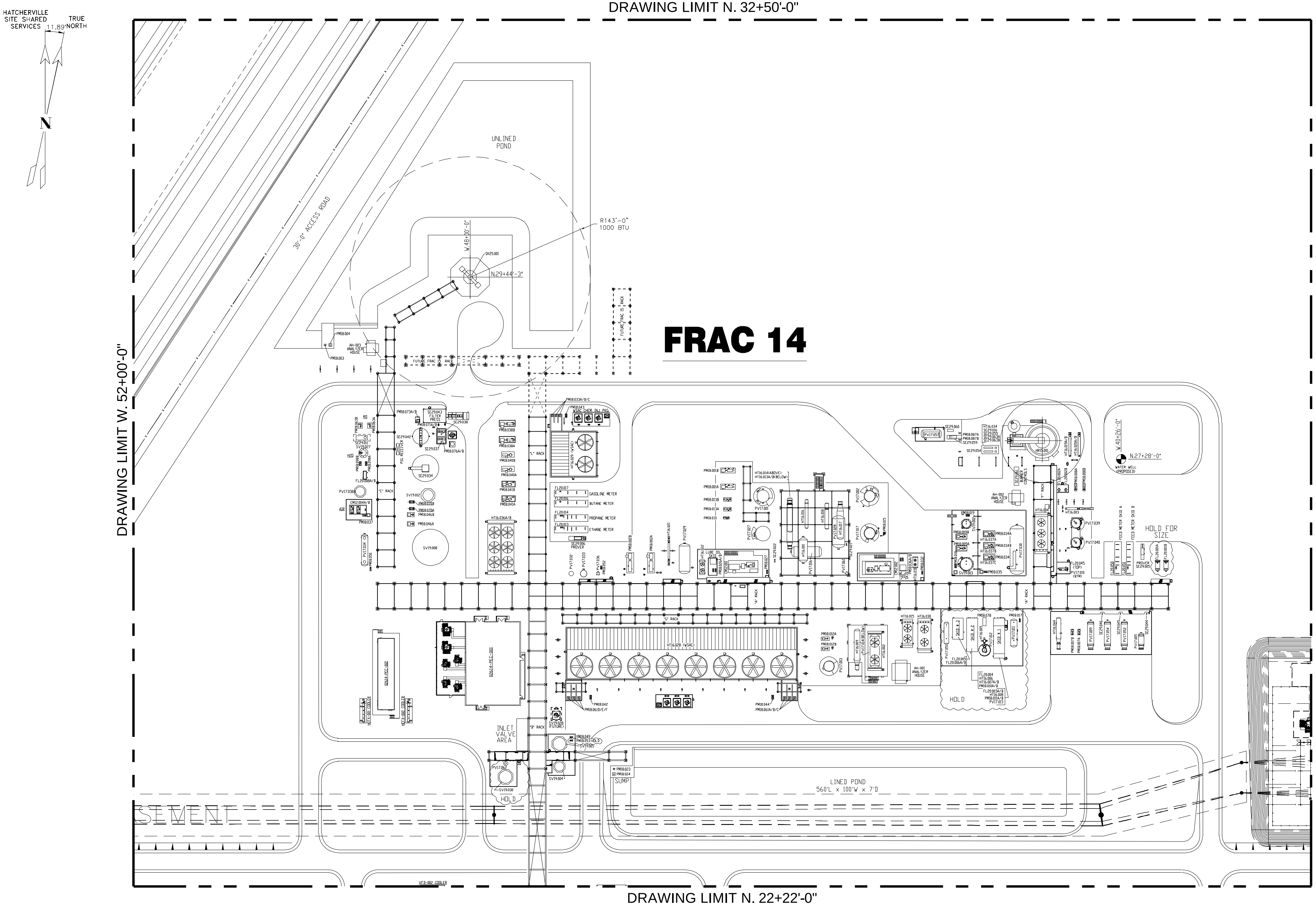
Intermittently, hydrostatic test water may be discharged from pipe or vessels not previously in hydrocarbon service. Occasionally, hydrostatic test water may be discharged from pipe or vessels previously in hydrocarbon service to support testing or maintenance activities.

Attachment I
Facility Figure

Tech Report 1.0 – 1.d., Pg. 2



						FRAC OUTFALL LOCATIONS BELVIEU FRACTIONATOR XI MONT BELVIEU, TEXAS	Enterprise Products
						DRAWING SCALE: NONE	ENTERPRISE APPROVED: -
NO.	REVISION	DRAWN	CHECKED	APPRVD	DATE	DRAWN BY: WCS 1-23-2019	DATE: -
A	ISSUE FOR PERMIT	WS	-	-	1/23/19	CHECKED BY: - -	ENTERPRISE PROJECT #: AFE-A36180
						APPROVED BY: - -	
						DOCUMENT CONTROL #	DRAWING NUMBER: SK-FRAC XI OUTFALL'S



ISSUED FOR
DATE: 12/2023
DESIGN PURPOSES

JOB. NO. C-6313

S & B ENGINEERS and CONSTRUCTORS, LTD.

S&B ENGINEERS and CONSTRUCTORS, LTD.

S&B JOB NO. C-6313

OVERALL
PLOT PLAN
FRAC 14
CHAMBERS COUNTY, TEXAS

Enterprise Products

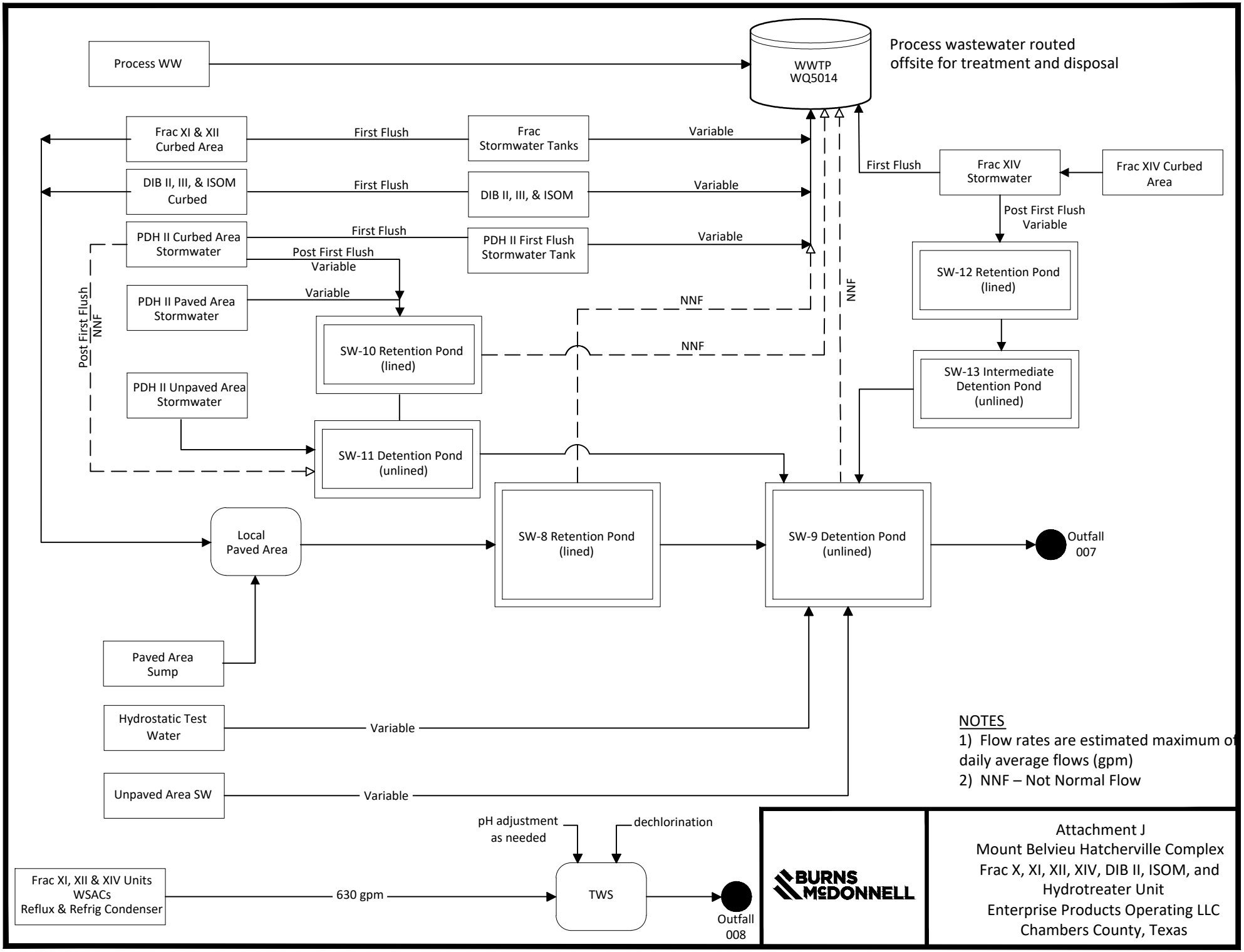
NO.	REVISION	DRAWN	CHECKED	APPRVD	DATE
A	ISSUED FOR SQUAD CHECK	BAN	.	.	09/2023
B	ISSUED FOR COMMENTS	BAN			09/2023
D	ISSUED FOR DESIGN	BAN			10/2023
E	ISSUED FOR DESIGN	BAN	KDD		12/2023

DRAWING SCALE	1" = 60'	
DRAWN BY	MGW	30-MAY-2023
CHECKED BY	-	-
APPROVED BY	.	.
DOCUMENT CONTROL #	XXXXX-EQPL-XXXX	

ENTERPRISE APPROVED	DAVID MARCHESANI
DATE	.
ENTERPRISE PROJECT #	AFE-A66122
DRAWING NUMBER	02614-976-0001

Attachment J
Flow Schematic

Tech Report 1.0 – 2.b., Pg. 3


Process WW
WWTP
WQ5014
Process wastewater routed
offsite for treatment and disposal
Frac XI & XII
Curbed Area
First Flush
Frac
Stormwater Tanks
Variable
DIB II, III, & ISOM
Curbed
First Flush
DIB II, III, & ISOM
Variable
PDH II Curbed Area
Stormwater
First Flush
PDH II First Flush
Stormwater Tank
Variable
Post First Flush
Variable
PDH II Paved Area
Stormwater
Variable
Post First Flush
NNF
NNF
NNF
SW-10 Retention Pond
(lined)
PDH II Unpaved Area
Stormwater
SW-11 Detention Pond
(unlined)
First Flush
Frac XIV
Stormwater
Frac XIV Curbed
Area
Post First Flush
Variable
SW-12 Retention Pond
(lined)
SW-13 Intermediate
Detention Pond
(unlined)
Local
Paved Area
SW-8 Retention Pond
(lined)
SW-9 Detention Pond
(unlined)
Outfall
007
Paved Area
Sump
Hydrostatic Test
Water
Variable
Unpaved Area SW
Variable
pH adjustment
as needed
dechlorination
Frac XI, XII & XIV Units
WSACs
Reflux & Refrig Condenser
630 gpm
TWS
Outfall
008
NOTES
1) Flow rates are estimated maximum of
daily average flows (gpm)
2) NNF – Not Normal Flow
BURNS McDONNELL
Attachment J
Mount Belvieu Hatcherville Complex
Frac X, XI, XII, XIV, DIB II, ISOM, and
Hydrotreater Unit
Enterprise Products Operating LLC
Chambers County, Texas

Attachment K
Liner Information

Tech Report 1.0 – 3.b., Pg. 5

Attachment K
Liner Information

Enterprise Products Operating LLC (Enterprise) owns and operates the Enterprise Mont Belvieu Hatcherville Complex located at 12901 Hatcherville Road in the City of Baytown, Chambers County, Texas 77521. The stormwater impoundments associated with this permit are SW-8, SW-9, SW-10, SW-11, SW-12, and SW-13.

Stormwater Retention Basins SW-8, SW-10, and SW-12 are lined with a synthetic 40mil textured HDPE, thermally welded liner.

Stormwater Detention Basins SW-9, SW-11, and SW-13 are grass-lined with a liner constructed from compacted, in-situ soils. Clay materials may be imported if necessary, to ensure that the underlying liner is sufficiently impermeable.

Attachment L
Chemical Additives

Tech Report 1.0 – 5.d., Pg. 9

Attachment L
Chemical Additives

Enterprise Products Operating LLC (Enterprise) owns and operates the Enterprise Mont Belvieu Hatcherville Complex located at 12901 Hatcherville Road in the City of Baytown, Chambers County, Texas 77521. With this application for amendment with renewal for TPDES Permit No. WQ00052670000 Enterprise includes the attached Safety Data Sheets (SDS) for chemical additives to be utilized at the units associated with the wastewaters discharged under TPDES Permit No WQ0005267000 at Enterprise's Mont Belvieu Hatcherville Complex. Chemical additives may be changed depending on conditions and operations. If other additives are utilized the additives will likely be similar to those currently in use and Enterprise will provide copies of those SDS to the TCEQ.

All chemical additives will be utilized in accordance with the manufacturer's recommendations.

Chemical Additive	Use	Outfall	Dosage Rate (ppm)*
Betz Dearborn DCL30	Dechlorination	008	4.4 per 1 ppm Cl2
ChemTreat CL41	Raw Water- Water Microbiocide- added at the CWA intake	008	1-5%
Control OS7780	Water based oxygen scavenger	008	3.60mg/L
FloGard MS6222	Water based corrosion inhibitor	008	80-100 mg/L
GenGard GN7004	Dispersant	008	80-100 mg/L
Hypersperse MDC714	Antiscalent	008	2 mg/L
Inhibitor AZ8104	Water based corrosion inhibitor	008	20 mg/L
Klaraid PC1192	Coagulant- Raw Water Polymer	008	30 mg/L
Spectrus BD1501E	Biodispersant	008	30-40 mg/L
Spectrus NX1100	Non-oxidizing biocide	008	60 mg/L
FOAMTROL AF1140	Cooling system antifoam agent	008	10 mg/L
FOAMTROL AF3031	Cooling system antifoam agent	008	10 mg/L
Sulfuric Acid	pH adjustment	007 008	Variable for pH adjustment
Bleach	Bio-cide	008	Variable

*Dosage rate is the expected maximum dosage targeted at the point of treatment (i.e. WSAC or Raw Water Treatment).

GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

BETZ*DEARBORN DCL30

1. Identification

Product identifier **BETZDEARBORN DCL30**

Other means of identification None.

Recommended use Dechlorination agent

Recommended restrictions None known.

Company/undertaking identification

GE Betz, 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 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 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. Call a poison center/doctor// if you feel unwell. If eye irritation persists: Get medical advice/attention.

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. Dispose of contents/container to .

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

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

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Rinse skin with water/shower.

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 Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of eyes and mucous membranes. May cause respiratory irritation. Skin 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 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 Water. 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. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up 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. Prevent entry into waterways, sewer, basements or confined areas. 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 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. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). 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. 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 Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended.

Skin protection

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

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

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance

Color Colorless to light yellow

Physical state Liquid

Odor Strong

Odor threshold Not available.

pH (concentrated product) 4.5

pH in aqueous solution 4.9 (5% SOL.)

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

Initial boiling point and boiling range 220 °F (104 °C)

Flash point Not applicable.

Evaporation rate < 1 (Ether = 1)

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 18 mm Hg

Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.27
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 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Percent volatile	0 (Calculated)
Pour point	23 °F (-5 °C)
Specific gravity	1.27

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	Oxides of 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.
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 and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation. Skin irritation.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
BETZDEARBORN DCL30 (CAS Mixture)		
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	3320 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

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

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

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

Sodium bisulphite (CAS 7631-90-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

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 available.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
BETZDEARBORN DCL30 (CAS Mixture)			
	LC50	Fathead Minnow	225 mg/L, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	930 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
		Mysid Shrimp	370 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
	NOEL	Fathead Minnow	160 mg/L, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	156 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
		Mysid Shrimp	156 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
Aquatic			
Crustacea	LC50	Daphnia magna	225 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	160 mg/L, Static Renewal Bioassay, 48 hour

Product		Species	Test Results
Fish	0% Mortality	Rainbow Trout	100 mg/L, Static Screen, 48 hour
	100% Mortality	Rainbow Trout	500 mg/L, Static Screen, 48 hour

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO2/g) 49 (calculated data)

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

Contaminated packaging 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 UN3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (SODIUM BISULFITE SOLUTION), RQ

Transport hazard class(es)

Class 9

Subsidiary risk -

Packing group III

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

ERG number 171

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

IATA

Not regulated as dangerous goods.

IMDG

UN number UN3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (SODIUM BISULFITE SOLUTION), RQ

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group III

Environmental hazards

Marine pollutant No.

EmS Not available.

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

DOT

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.
All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium bisulphite (CAS 7631-90-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical 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

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).

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

US - Massachusetts RTK - Substance List

Sodium bisulphite (CAS 7631-90-5)

US - Pennsylvania RTK - Hazardous Substances

Sodium bisulphite (CAS 7631-90-5)

US - Rhode Island RTK

Sodium bisulphite (CAS 7631-90-5)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Sodium bisulphite (CAS 7631-90-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium bisulphite (CAS 7631-90-5)

US. California Proposition 65

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

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-16-2014

Revision date Aug-03-2015

Version # 1.0

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
CEN: European Committee for Standardisation
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
NFPA: National Fire Protection Association
ACGIH: American Conference of Governmental Industrial Hygienists
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

References: No data available

Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision Information	Hazard(s) identification: Hazard statement Hazard(s) identification: Prevention Composition/information on ingredients: Composition comments First-aid measures: Skin contact First-aid measures: Most important symptoms/effects, acute and delayed Handling and storage: Precautions for safe handling Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Toxicological information: Reproductive toxicity Toxicological information: Inhalation Toxicological information: Symptoms related to the physical, chemical and toxicological characteristics Other information, including date of preparation or last revision: Prepared by GHS: Classification
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Chemical Treatment CL41
Product Use:	Cooling Water Microbiocide
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of MSDS:	September 14, 2015
Revision Date:	September 14, 2015
Revision Number:	15091401AN

Section 2. Hazard(s) Identification

Signal Word:	**WARNING**
GHS Classification(s):	Eye damage/irritation − Category 2b Acute Toxicity Dermal − Category 5 Acute Toxicity Inhalation − Category 4 Acute Toxicity Oral − Category 4
Hazard Statement(s):	Causes eye irritation. May be harmful in contact with skin. Harmful if inhaled. Harmful if swallowed.
Precautionary Statement(s):	Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well−ventilated area. Do not eat, drink, or smoke when using this product.
System of Classification Used:	Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
Hazards Not Otherwise Classified:	None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Sodium bromide	7647−15−6	40

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.

Notes to Physician: N/A

Additional First Aid Remarks: Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Containers exposed in a fire should be cooled with water to prevent vapor pressure build−up leading to rupture.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

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

Methods for Cleaning up: Contain and recover liquid when possible. Flush spill area with water spray.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium bromide	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes: Wear chemical splash goggles or safety glasses with full−face shield. Maintain eyewash fountain in work area.

Skin: Maintain quick−drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory: If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Colorless, Clear
Specific Gravity:	1.432 @ 20°C
pH:	7.5 @ 20°C, 100.0%
Freezing Point:	<−11°F
Flash Point:	N/D
Odor:	Odorless
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	N/D
Evaporation Rate:	N/A
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	11.94 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong acids, Strong oxidizers.

Hazardous Decomposition Products: Hydrogen, Bromine.

Possibility of Hazardous Reactions: None known.

Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
Chemical Treatment CL41	Oral	LD50	>5000 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium bromide	N/E	N/E	N/E

Comments: None.

Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
Bluegill Sunfish	96h	LC50	>1000 mg/l
Daphnia magna	48h	EC50	>1000 mg/l
Rainbow Trout	96h	LC50	>1000 mg/l

Comments: Based on active ingredient

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: Non−refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

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

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium bromide	None.

International Regulations

Canada

WHMIS Classification: N/A

Controlled Product Regulations (CPR): N/A

Compliance Information

NSF: N/A

FDA/USDA/GRAS: N/A

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

FIFRA: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300−26.

Other: PMRA biocide registration NO. 30146.

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	1
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha−numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end−user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

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

Revision Date: September 14, 2015

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 11-MAR-2011
Supercedes: 12-MAR-2009

CORTROL OS7780

1 Identification

Identification of substance or preparation
CORTROL OS7780

Product Application Area
Water based dissolved oxygen scavenger/metal passivator.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 11-MAR-2011

2 Hazard(s) identification

****
EMERGENCY OVERVIEW

WARNING

May cause slight irritation to the skin. Skin sensitizer. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard is not applicable
Odor: Slight; Appearance: Colorless To Brown, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water
****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; May cause slight irritation to the skin. Skin sensitizer.

ACUTE EYE EFFECTS:
May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:
May cause gastrointestinal irritation. Very large doses may cause diarrhea, depression, colic and death. May also cause severe allergic reactions in sensitive individuals.

TARGET ORGANS:
Prolonged or repeated exposures may cause primary irritant dermatitis, skin sensitization, impaired vision, and/or toxicity to the blood.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Prolonged, repeated exposure may result in brownish discoloration of the conjunctiva and changes in the cornea which may lead to decreased visual acuity.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation. This product is subject to the Pennsylvania and New Jersey Worker and Community Right to Know Law.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
123-31-9	HYDROQUINONE (1,4-BENZENEDIOL) Toxic (by ingestion); irritant (eyes); potential sensitizer (skin); IARC=3 (carcinogen status not classifiable)	1-5

NON-HAZARDOUS INGREDIENTS:

CAS#	CHEMICAL NAME
7732-18-5	WATER

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

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

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician.

Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:

No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon

FLASH POINT:

> 200F > 93C SETA(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Store with minimum exposure to light. Shelf life 270 days. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

HYDROQUINONE (1,4-BENZENEDIOL)
PEL (OSHA): 2 MG/M3
TLV (ACGIH): 2 MG/M3

ENGINEERING CONTROLS:

Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

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.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:
gauntlet-type butyl or neoprene gloves, chemical resistant apron -- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles, face shield

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.002	Vapor Pressure (mmHG)	18.0
Freeze Point (F)	32	Vapor Density (air=1)	> 1.00
Freeze Point (C)	0		
Viscosity(cps 70F,21C)	7	% Solubility (water)	100.0

Odor		Slight
Appearance		Colorless To Brown
Physical State		Liquid
Flash Point	SETA(CC)	> 200F > 93C
pH As Is (approx.)		7.5
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:
Contact with water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:
May react with strong oxidizers.

DECOMPOSITION PRODUCTS:
oxides of carbon

11 Toxicological information

Oral LD50 RAT:	>5,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>5,000 mg/kg
NOTE - Estimated value	

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Renewal Bioassay
LC50= 8.7; No Effect Level= 4.9 mg/L

Fathead Minnow 96 Hour Static Renewal Bioassay
LC50= 8.2; No Effect Level= 3.1 mg/L

Rainbow Trout 96 Hour Static Acute Bioassay
LC50= 6.3; No Effect Level= 3.7 mg/L

BIODEGRADATION

BOD-28 (mg/g): 27
BOD-5 (mg/g): 27
COD (mg/g): 52
TOC (mg/g): 16

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Not Applicable
DOT: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.(HYDROQUINONE) 9, NA 3082, PG III, RQ
DOT EMERGENCY RESPONSE GUIDE #: 171
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: Not Regulated

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.(HYDROQUINONE) 9, NA 3082, PG III, RQ

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

479 gallons due to HYDROQUINONE (1,4-BENZENEDIOL);

FOOD AND DRUG ADMINISTRATION:

All ingredients in this product are authorized in 21 CFR176.170 for use in boilers where the steam will be used for manufacturing paper or paperboard.

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

Registration number: Not Registered
G7

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

CAS#	CHEMICAL NAME
123-31-9	HYDROQUINONE (1,4-BENZENEDIOL)

SARA SECTION 313 CHEMICALS:

CAS#	CHEMICAL NAME	RANGE
123-31-9	HYDROQUINONE (1,4-BENZENEDIOL)	2.0-5.0%

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains one or more ingredients at trace levels known to the state of California to cause cancer.

MICHIGAN REGULATORY INFORMATION

CAS#	CHEMICAL NAME
123-31-9	HYDROQUINONE (1,4-BENZENEDIOL)

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	1	Slight Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	21-JUL-1997		** NEW **
	28-SEP-1999	2	21-JUL-1997
	02-AUG-2006	4,7,16	28-SEP-1999
	20-OCT-2008	3,5,14	02-AUG-2006
	12-MAR-2009	14	20-OCT-2008
	11-MAR-2011	4,5,7,8,10,15	12-MAR-2009

GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

FLOGARD* MS6222

1. Identification

Product identifier	**FLOGARD MS6222**
Other means of identification	None.
Recommended use	Water-based corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation. May cause damage to organs.

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. 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/. Specific treatment (see on this label). 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
Phosphoric Acid	7664-38-2	60 - 80

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

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

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

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

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

5. Fire-fighting measures

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

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

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

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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

6. Accidental release measures

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

Methods and materials for containment and cleaning up 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. Prevent entry into waterways, sewer, basements or confined areas. 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

Acidic. Do not mix with alkaline material. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Do not freeze. If frozen, thaw completely and mix thoroughly prior to use. Contact with metals may release flammable hydrogen gas. Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 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

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

In case of insufficient ventilation, wear suitable respiratory equipment. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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

9. Physical and chemical properties

Appearance

Color Colorless to light yellow

Physical state Liquid

Odor Mild

Odor threshold Not available.

pH (concentrated product) 1

pH in aqueous solution 1.2 (5% SOL.)

Melting point/freezing point < -30 °F (< -34 °C)

Initial boiling point and boiling range	Not available.
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	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	15 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1 (Air = 1)
Relative density	1.58
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	20 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Percent volatile	0 (Estimated)
Pour point	< -25 °F (< -32 °C)
Specific gravity	1.58

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. Contact with water reactive compounds may cause fire or explosion.
Conditions to avoid	Protect from freezing. Contact with metals may release flammable hydrogen gas.
Incompatible materials	Strong oxidizing agents. Metals. Avoid contact with strong bases.
Hazardous decomposition products	Oxides of carbon and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs by inhalation. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.

Product	Species	Test Results
FLOGARD MS6222 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	3650 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	2040 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Phosphoric Acid (CAS 7664-38-2)		
Acute		
Dermal		
LD50	Rabbit	2740 mg/kg

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

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization 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 This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

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

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

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
FLOGARD MS6222 (CAS Mixture)			
	IC25	Ceriodaphnia	416.7 mg/l, Chronic Bioassay, 7 day, (pH adjusted)
	LC50	Ceriodaphnia	1387 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
		Fathead Minnow	4200 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Ceriodaphnia	625 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
			125 mg/l, Chronic Bioassay, 7 day, (pH adjusted)

Product		Species	Test Results
		Fathead Minnow	2100 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)
Aquatic			
Crustacea	LC50	Daphnia magna	3540 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	2100 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
Fish	LC50	Rainbow Trout	7382 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Rainbow Trout	5000 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)

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

Bioaccumulative potential No information available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

Product contains only inorganics that are not subject to typical biological degradation.
Assimilation by microbes may occur in waste treatment or the environment. This product, being inorganic, has no TOC, BOD.

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 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 UN1805
UN proper shipping name PHOSPHORIC ACID SOLUTION, 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 UN1805
UN proper shipping name PHOSPHORIC ACID SOLUTION
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	UN1805
UN proper shipping name	PHOSPHORIC ACID SOLUTION, RQ
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Phosphoric Acid (CAS 7664-38-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

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).

US state regulations

US - Massachusetts RTK - Substance List

Phosphoric Acid (CAS 7664-38-2)

US - Pennsylvania RTK - Hazardous Substances

Phosphoric Acid (CAS 7664-38-2)

US - Rhode Island RTK

Phosphoric Acid (CAS 7664-38-2)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Phosphoric Acid (CAS 7664-38-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Phosphoric Acid (CAS 7664-38-2)

US. California Proposition 65

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

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	Jun-15-2015
Revision date	Aug-12-2015
Version #	2.0

List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand

	TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code NFPA: National Fire Protection Association ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision Information	Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information HazReg Data: North America
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power
Water & Process Technologies

SAFETY DATA SHEET

GENGARD* GN7004

1. Identification

Product identifier **GENGARD GN7004**

Other means of identification None.

Recommended use Dispersant

Recommended restrictions None known.

Company/undertaking identification

GE Betz, 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 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 original tightly closed container. 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

Occupational exposure limits	No exposure limits noted for ingredient(s).
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. Suitable gloves can be recommended by the glove supplier. 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	Amber
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	5
pH in aqueous solution	5.9 (5% SOL.)
Melting point/freezing point	25 °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	1.13
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	24 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	0 (Calculated)
Pour point	30 °F (-1 °C)
Specific gravity	1.134

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 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 GN7004 (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)

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

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
GENGARD GN7004 (CAS Mixture)			
	LC50	Ceriodaphnia	1707.6 mg/L, Static Acute Bioassay, 48 hour
		Fathead Minnow	2367 mg/L, Static Acute Bioassay, 96 hour
	LOEL	Ceriodaphnia	1000 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow	2000 mg/L, Chronic Bioassay, 7 day
	NOEL	Ceriodaphnia	1250 mg/L, Static Acute Bioassay, 48 hour
			500 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow	1250 mg/L, Static Acute Bioassay, 96 hour
			1000 mg/L, Chronic Bioassay, 7 day
Aquatic			
Crustacea	LC50	Daphnia magna	3677 mg/L, Static Acute Bioassay, 48 hour
	NOEL	Daphnia magna	2500 mg/L, Static Acute Bioassay, 48 hour
Fish	LC50	Rainbow Trout	1894 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Rainbow Trout	1250 mg/L, Static Acute Bioassay, 96 hour

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

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

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 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical 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): Registration No. – 141931
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. California Proposition 65

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Jan-07-2015
Revision date	Aug-03-2016
Version #	5.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists
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 GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

HYPERSPERSE* MDC714

1. Product and Company Identification

Material name	**HYPERSPERSE MDC714**
Version #	2.0
Revision date	Dec-08-2014
Supersedes date	Jul-26-2012
Chemical description	Phosphonate in water
CAS #	Mixture
Product application	Membrane Deposit Control Agent

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazards Identification

Emergency overview Health injuries are not known or expected under normal use. May cause slight irritation to the skin. May cause slight irritation to the eyes.

Potential health effects

Eyes	May cause slight irritation to the eyes.
Skin	May cause slight irritation to the skin.
Inhalation	May cause irritation to the upper respiratory tract.
Ingestion	May cause slight gastrointestinal irritation.

Medical conditions aggravated by exposure None known.

3. Composition / Information on Ingredients

Hazardous components	**CAS #**	**Percent**
Disodium phosphonate	13708-85-5	2.5 - 10
Sodium chloride	7647-14-5	1 - 2.5

Non-hazardous components	**CAS #**
Water	7732-18-5
[Nitrilotris(methylene)]trisphosphonic acid, sodium salt	20592-85-2

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 MSDS for our assessment of the potential hazards of this formulation.

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.
Skin contact	Wash off with soap and water. Get medical attention immediately. Take off contaminated clothing and wash before reuse.
Inhalation	Move to fresh air. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Get medical attention immediately.
Ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. Get medical attention if symptoms occur.
Notes to physician	No specific antidotes are recommended.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam.

Protection of firefighters

Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

6. Accidental Release Measures

Personal precautions	Wear appropriate protective equipment and clothing during clean-up. Avoid contact with spilled material. See Section 8 of the MSDS for Personal Protective Equipment.
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.
Methods for cleaning up	Ventilate the area. Flush with plenty of water. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Spread sand/grit.

7. Handling and Storage

Handling	No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the MSDS for additional personal protection advice when handling this product.
Storage	Keep container tightly closed in a dry and well-ventilated place.

8. Exposure Controls / Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Engineering controls	Explosion-proof general and local exhaust ventilation. 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. Bulk tanks should be vented externally.

Personal protective equipment

Eye / face protection	Chemical goggles are recommended.
Skin protection	Wear suitable protective clothing. Chemical resistant gloves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Chemical resistant apron. Glove selection must take into account any solvents and other hazards present.
Respiratory protection	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. If air-purifying respirator use is appropriate, use organic vapor cartridges and any of the following particulate respirators: R95, R99, R100, P95, P99 or P100.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance

Physical state	Liquid
Color	Colorless to yellow
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	7.3
pH in aqueous solution	7.8 (5% SOL.)
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Boiling point	215 °F (102 °C)
Melting point/Freezing point	-8 °F (-22 °C)
Solubility (water)	100 %
Specific gravity (70°F, 21°C)	1.42
Flash point	Not applicable.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Evaporation rate	< 1 (Ether = 1)
Viscosity	25 cps
Viscosity temperature	70 °F (21 °C)
Percent volatile	0 (Estimated)
Pour point	-3 °F (-19 °C)

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	None known.
Incompatible materials	Water reactive substance. Strong oxidizing substances.
Hazardous decomposition products	Oxides of carbon, nitrogen and phosphorus evolved in fire.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Species	Test Results
HYPERSPERSE MDC714 (CAS Mixture)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg

Carcinogenicity

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

12. Ecological Information

Ecotoxicity

Product		Species	Test Results
HYPERSPERSE MDC714 (CAS Mixture)			
	LC50	Fathead Minnow	5098 mg/L, Static Renewal Bioassay, 96 hour
	NOEL	Fathead Minnow	2000 mg/L, Static Renewal Bioassay, 96 hour
Crustacea	LC50	Daphnia magna	1366 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	1000 mg/L, Static Renewal Bioassay, 48 hour
Other	LC50	Rainbow Trout	5464 mg/L, Static Renewal Bioassay, 96 hour
	NOEL	Rainbow Trout	4000 mg/L, Static Renewal Bioassay, 96 hour

Persistence and degradability

No data available

13. Disposal Considerations

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

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

14. Transport Information

DOT

Not regulated as dangerous goods.

Some containers may be DOT exempt, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

TDG

Not regulated as a dangerous good.

15. Regulatory Information

US federal regulations

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

None listed.

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

Not regulated.

CERCLA (Superfund) reportable quantity, lbs

None listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Formaldehyde	50-00-0	100	500 lbs		

SARA 311/312 Hazardous chemical	No

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).

State regulations

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

Formaldehyde (CAS 50-00-0) Listed: January 1, 1988 Carcinogenic.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

16. Other Information

List of abbreviations	NFPA: National Fire Protection Association ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
HMIS® ratings	Health: 1 Flammability: 0 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
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.
This data sheet contains changes from the previous version in section(s):	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Ecological Information: Ecotoxicity Transport Information: Material Transportation Information HazReg Data: Europe - EU GHS: Classification
Prepared by	This MSDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power
Water & Process Technologies

SAFETY DATA SHEET

INHIBITOR AZ8104

1. Identification

Product identifier	**INHIBITOR AZ8104**
Other means of identification	None.
Recommended use	Water-based corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

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

Label elements

Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material-damage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Chlorotolyltriazole sodium salt	202420-04-0	10 - 20
DICHLOROTOLYLTRIAZOLE	NOT ASSIGNED	2.5 - 10
Sodium 4(or 5)-methyl-1H-benzotriazolide	64665-57-2	1 - 2.5
Sodium hydroxide	1310-73-2	1 - 2.5

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

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

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

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

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

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

5. Fire-fighting measures

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

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

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

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

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

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

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

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

8. Exposure controls/personal protection

Occupational exposure limits

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

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

US. ACGIH Threshold Limit Values

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

US. NIOSH: Pocket Guide to Chemical Hazards

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

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

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

Individual protection measures, such as personal protective equipment

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

Skin protection

Hand protection
Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. 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
Yellow to amber

Physical state
Liquid

Odor
Slight

Odor threshold
Not available.

pH (concentrated product)
12.7

pH in aqueous solution
11.6 (5% SOL.)

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

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

Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.13
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	5 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	0 (Estimated)
Pour point	17 °F (-8 °C)
Specific gravity	1.132

10. Stability and reactivity

Reactivity	May be corrosive to metals. May react violently with acidic materials.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Metals.
Hazardous decomposition products	Hydrogen chloride, oxides of carbon and nitrogen evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.

Product	Species	Test Results
INHIBITOR AZ8104 (CAS Mixture)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Chlorotolyltriazole sodium salt (CAS 202420-04-0)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	3100 mg/kg
DICHLOROTOLYLTRIAZOLE (CAS NOT ASSIGNED)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	3100 mg/kg
Sodium 4(or 5)-methyl-1H-benzotriazolide (CAS 64665-57-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	735 mg/kg

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

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

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

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

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

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

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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

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

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
INHIBITOR AZ8104 (CAS Mixture)			
	LC50	Annelida(Lumbriculus variegatus)	138 mg/L, Static Acute Bioassay, 96 hour
		Benthic Crustacean(Gammerus pseutolimnaeus)	42.1 mg/L, Static Acute Bioassay, 96 hour
		Bluegill Sunfish	36.6 mg/L, Static Acute Bioassay, 96 hour
		Ceriodaphnia	124 mg/L, Static Renewal Bioassay, 48 hour
		Fathead Minnow	135 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
			50.7 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
		Freshwater Snail(Physa sp.)	47.4 mg/L, Static Acute Bioassay, 96 hour
		Menidia beryllina (Silversides)	41 mg/L, Static Acute Bioassay, 96 hour
		Midge larvae (Chironomus tentans)	95.8 mg/L, Static Acute Bioassay, 96 hour
		Mysid Shrimp	53 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
		Sheepshead Minnow	132 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
	LOEL	Ceriodaphnia	40 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow	8.3 mg/L, Chronic Flow-Thru Bioassay, 28 day, (pH adjusted)
	NOEL	Annelida(Lumbriculus variegatus)	62.5 mg/L, Static Acute Bioassay, 96 hour
		Benthic Crustacean(Gammerus pseutolimnaeus)	25 mg/L, Static Acute Bioassay, 96 hour
		Bluegill Sunfish	25 mg/L, Static Acute Bioassay, 96 hour
		Ceriodaphnia	75 mg/L, Static Renewal Bioassay, 48 hour
			20 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow	21.8 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
			15 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
			4.2 mg/L, Chronic Flow-Thru Bioassay, 28 day, (pH adjusted)
		Freshwater Snail(Physa sp.)	25 mg/L, Static Acute Bioassay, 96 hour
		Menidia beryllina (Silversides)	25 mg/L, Static Acute Bioassay, 96 hour
		Midge larvae (Chironomus tentans)	62.5 mg/L, Static Acute Bioassay, 96 hour
		Mysid Shrimp	25 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
		Sheepshead Minnow	100 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
Aquatic			
Crustacea	EC0	Daphnia magna	155 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
	EC50	Daphnia magna	210 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
			50 mg/L, Chronic Bioassay, 21 day, (pH adjusted)
	LC50	Daphnia magna	217 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)

Product		Species	Test Results
	NOEL	Daphnia magna	148 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
			27 mg/L, Chronic Bioassay, 21 day, (pH adjusted)
Fish	LC50	Rainbow Trout	15.4 mg/L, Static Renewal Bioassay, 96 hour
	NOEL	Rainbow Trout	6.3 mg/L, Static Renewal Bioassay, 96 hour

Components		Species	Test Results
Chlorotolyltriazole sodium salt (CAS 202420-04-0)			
Aquatic			
Algae	EbC50	Algae	6.84 mg/l
	ErC50	Algae	18.6 mg/l

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Nutrients: N: 40,4 mg/g

Persistence and degradability

Testing has shown product not to be readily biodegradable.

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

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

UN number UN1760

UN proper shipping name CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE, HALOGENATED AROMATIC HETEROCYCLE SODIUM SALT)

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

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

ERG number 154

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

IATA

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE; HALOGENATED AROMATIC HETEROCYCLE SODIUM SALT)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE; HALOGENATED AROMATIC HETEROCYCLE SODIUM SALT)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

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

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical
Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)
Hazardous substance

Safe Drinking Water Act (SDWA)
Not regulated.

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines):
Registration No. – 141530
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US - Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

US - Pennsylvania RTK - Hazardous Substances

Sodium hydroxide (CAS 1310-73-2)

US - Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

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

Sodium hydroxide (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)

US. California Proposition 65

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

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-24-2014
Revision date	Aug-08-2016
Version #	3.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power
Water & Process Technologies

SAFETY DATA SHEET

KLARAID* PC1192

1. Identification

Product identifier **KLARAID PC1192**

Other means of identification None.

Recommended use Coagulant

Recommended restrictions None known.

Company/undertaking identification

GE Betz, 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 2

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Causes serious eye irritation.

Precautionary statement

Prevention Wear eye/face protection. Wash thoroughly after handling.

Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

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
N,N-Dimethyl-N-2-propenyl-2-propen- 1-amonium chloride homopolymer	26062-79-3	10 - 20

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

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

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water.
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	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
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. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. 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. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

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

Appropriate engineering controls	Provide eyewash station. 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	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
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	6.3
pH in aqueous solution	6.2 (5% SOL.)
Melting point/freezing point	30 °F (-1 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.03
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	168 cps
Viscosity temperature	70 °F (21 °C)

Other information

Percent volatile	0 (ASTM 3960-93)
Pour point	35 °F (2 °C)
Specific gravity	1.032

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	Hydrogen chloride, oxides of carbon and nitrogen 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 irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
KLARAID PC1192 (CAS Mixture)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
N,N-Dimethyl-N-2-propenyl-2-propen- 1-amonium chloride homopolymer (CAS 26062-79-3)		
Acute		
Oral		
LD50	Rat	3000 mg/kg

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

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
KLARAID PC1192 (CAS Mixture)			
	LC50	Ceriodaphnia	9.3 mg/l, Static Acute Bioassay, 48 hour, (With Humic Acid)
		Fathead Minnow	3.8 mg/l, Static Acute Bioassay, 96 hour, (With Humic Acid)
	NOEL	Ceriodaphnia	6.25 mg/l, Static Acute Bioassay, 48 hour, (With Humic Acid)
		Fathead Minnow	2.5 mg/l, Static Acute Bioassay, 96 hour, (With Humic Acid)
Aquatic			
Crustacea	LC50	Daphnia magna	32 mg/l, Static Acute Bioassay, 48 hour, (With Humic Acid)
	NOEL	Daphnia magna	15.6 mg/l, Static Acute Bioassay, 48 hour, (With Humic Acid)
Fish	LC50	Rainbow Trout	14.1 mg/l, Static Acute Bioassay, 96 hour, (With Humic Acid)
	NOEL	Rainbow Trout	10 mg/l, Static Acute Bioassay, 96 hour, (With Humic Acid)

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

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

Persistence and degradability

- COD (mgO2/g)	270
- BOD 5 (mgO2/g)	0
- BOD 28 (mgO2/g)	7
- Closed Bottle Test (% Degradation in 28 days)	3
- Zahn-Wellens Test (% Degradation in 28 days)	6
- TOC (mg C/g)	90

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	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.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

Food and drug administration 21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)

US state regulations

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. California Proposition 65

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

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Oct-20-2014
Revision date	Sep-27-2016
Version #	3.0
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: Prevention Composition/information on ingredients: Composition comments Exposure controls/personal protection: Appropriate engineering controls Exposure controls/personal protection: Respiratory protection Physical and chemical properties: Explosive properties Physical and chemical properties: Oxidizing properties Stability and reactivity: Possibility of hazardous reactions Toxicological information: Aspiration hazard Toxicological information: Respiratory sensitization Transport Information: Agency Name, Packaging Type, and Transport Mode Selection Other information, including date of preparation or last revision: Further information HazReg Data: Pacific Rim GHS: Classification
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

* Trademark of General Electric Company. May be registered in one or more countries.

GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

SPECTRUS* BD1501E

1. Identification

Product identifier	**SPECTRUS BD1501E**
Other means of identification	None.
Recommended use	Biodispersant
Recommended restrictions	None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

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

Label elements

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

3. Composition/information on ingredients

Mixtures

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

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Call a POISON CENTER or doctor/physician if you feel unwell. If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

Skin contact Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. Get medical attention if irritation develops and persists. If skin irritation occurs: Get medical advice/attention.

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

Ingestion Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur.

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

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

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (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 Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.

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

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. See Section 8 of the SDS for Personal Protective Equipment. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. 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. Ventilate area, use specified protective equipment. Flush area with water. Wet area may be slippery.

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

7. Handling and storage

Precautions for safe handling	Do not get this material in contact with eyes. Avoid breathing mist or vapor. Avoid contact with skin. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in cool, well ventilated area. Store away from oxidizers.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
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. Adequate ventilation to maintain air contaminants below exposure limits.

Individual protection measures, such as personal protective equipment

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

9. Physical and chemical properties

Appearance	
Color	Colorless
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	6.7
Melting point/freezing point	31 °F (-1 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)

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

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
SPECTRUS BD1501E (CAS Mixture)		
Acute		
Oral		
LD50	Rat	3571 mg/kg, (Calculated according to GHS additivity formula (Category 5))

Components	Species	Test Results
Alcohols, C10, alkoxylated (CAS 166736-08-9)		
Acute		
Oral		
LD50	Rat	500 - 2000 mg/kg

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

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

Respiratory or skin sensitization

Respiratory sensitization Not available.

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 available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

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. May be harmful if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
SPECTRUS BD1501E (CAS Mixture)			
	IC25	Ceriodaphnia	39.9 mg/l, Chronic Bioassay, 7 day
	LC50	Ceriodaphnia	200 mg/l, Static Renewal Bioassay, 48 hour
		Fathead Minnow	82.5 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Ceriodaphnia	100 mg/l, Static Renewal Bioassay, 48 hour
			25 mg/l, Chronic Bioassay, 7 day
		Fathead Minnow	31.3 mg/l, Static Renewal Bioassay, 96 hour
Aquatic			
Crustacea	LC50	Daphnia magna	38.2 mg/l, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	12.5 mg/l, Static Renewal Bioassay, 48 hour
Fish	LC50	Rainbow Trout	141.4 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Rainbow Trout	100 mg/l, Static Renewal Bioassay, 96 hour

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

No data available

- **COD (mgO2/g)** 647 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 0 (calculated data)
- **TOC (mg C/g)** 0 (calculated data)

13. Disposal considerations

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical 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.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 141060
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

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

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. California Proposition 65

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

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 Aug-17-2015

Version # 2.0

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 GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power
Water & Process Technologies

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

GE Betz, 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.
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. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. 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. Store away from incompatible materials (see Section 10 of the SDS). 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

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. 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	
Percent volatile	0
Pour point	29 °F (-2 °C)
Specific gravity	1.107

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 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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

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

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. 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)			
	LC50	Ceriodaphnia	4.7 mg/l, Static Renewal Bioassay, 48 hour
		Fathead Minnow	3.5 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	15.9 mg/l, Static Renewal Bioassay, 96 hour
		Mysid Shrimp	40.5 mg/l, Static Renewal Bioassay, 48 hour
		Sheepshead Minnow	26.7 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Ceriodaphnia	0.63 mg/l, Static Renewal Bioassay, 48 hour
		Fathead Minnow	1.8 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	12.5 mg/l, Static Renewal Bioassay, 96 hour
		Mysid Shrimp	18 mg/l, Static Renewal Bioassay, 48 hour
		Sheepshead Minnow	15.5 mg/l, Static Renewal Bioassay, 96 hour
Aquatic			
Crustacea	LC50	Daphnia magna	5 mg/l, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	2.5 mg/l, Static Renewal Bioassay, 48 hour
Fish	LC50	Rainbow Trout	7.2 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Rainbow Trout	3.1 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	0.486

Mobility in soil	No data available.
Other adverse effects	Nutrients: N = 8.03 mg/g

Persistence and degradability

- COD (mgO2/g)	78 (calculated data)
- 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	Read safety instructions, SDS and emergency procedures before handling.
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. (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
Environmental hazards	Yes
ERG Code	153
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

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), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II

Environmental hazards

Marine pollutant Yes

EmS F-A, S-B

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

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 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

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)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

FIFRA registration number 3876-151

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 - Massachusetts RTK - Substance List

Magnesium nitrate (CAS 10377-60-3)

US - Pennsylvania RTK - Hazardous Substances

Magnesium nitrate (CAS 10377-60-3)

US - Rhode Island RTK

Magnesium nitrate (CAS 10377-60-3)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

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

Magnesium chloride (CAS 7786-30-3)
Magnesium nitrate (CAS 10377-60-3)

US. New Jersey Worker and Community Right-to-Know Act

Magnesium nitrate (CAS 10377-60-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Magnesium nitrate (CAS 10377-60-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

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	Dec-19-2016
Version #	10.0
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	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

FOAMTROL* AF1440

1. Identification

Product identifier **FOAMTROL AF1440**

Other means of identification Not available.

Recommended use Antifoam

Recommended restrictions None known.

Company/undertaking identification

GE Betz, 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

Acute toxicity, inhalation	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
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. Harmful if inhaled. May cause respiratory irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

Precautionary statement

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

Response	If swallowed: Immediately call a poison center/doctor/. 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. Specific treatment (see on this label). Do NOT induce vomiting. 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 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. Dispose of contents/container to an approved waste disposal facility.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Petroleum distillate, middle cut		64741-44-2	60 - 80
Fatty acid ethoxylate		61791-00-2	2.5 - 10
Fatty acids, C16-18		67701-03-5	2.5 - 10

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

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

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. 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. Take off contaminated clothing and wash 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. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Not available.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Not available.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors and spray mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	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. Prevent entry into waterways, sewer, basements or confined areas. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Vent carefully before opening. Do not handle until all safety precautions have been read and understood. Avoid inhalation of vapors and spray mists. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Avoid contact with clothing. Use only outdoors or in a well-ventilated area. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store locked up. Store away from oxidizers. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation. Store between 32 - 38 °C If storage is below 32 °C, warm and mix prior to use to ensure homogeneity.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
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

Eye/face protection	Splash proof chemical goggles.
Skin protection	
Hand protection	Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Amber
Physical state	Liquid
Odor	Hydrocarbon
Odor threshold	Not available.
pH in aqueous solution	5.6 (5% EMULSION)
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 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	< 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	
Percent volatile	53.9 (Estimated)
Pour point	< 60 °F (< 16 °C)
Specific gravity	0.87

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 contact with strong oxidizers.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure	
Ingestion	May be fatal if swallowed and enters airways.
Inhalation	May be fatal if swallowed and enters airways. Harmful if inhaled.
Skin contact	May cause irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	May cause redness and pain. May cause respiratory irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Information on toxicological effects	
Acute toxicity	May be fatal if swallowed and enters airways. Harmful if inhaled. May cause respiratory irritation.

Product	Species	Test Results
FOAMTROL AF1440 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	4750 mg/kg, (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	2.23 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
Fatty acids, C16-18 (CAS 67701-03-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Petroleum distillate, middle cut (CAS 64741-44-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 1.72 mg/l, 4 hr
Oral		
LD50	Rat	> 5000 mg/kg

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

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

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 Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Petroleum distillate, middle cut (CAS 64741-44-2) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
FOAMTROL AF1440 (CAS Mixture)			
Crustacea	LC50	Daphnia magna	720 mg/L, Static Acute Bioassay, 48 hour
	NOEL	Daphnia magna	250 mg/L, Static Acute Bioassay, 48 hour
Other	LC50	Rainbow Trout	353 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Rainbow Trout	250 mg/L, Static Acute Bioassay, 96 hour

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

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

Testing has shown product to be readily biodegradable.
(Refers to active component : Distillates (petroleum), hydrotreated light)

- **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)

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

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be DOT exempt, 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.
All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Ethylene oxide (oxirane)	75-21-8	10	1000 lbs		

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,4-DIOXANE	123-91-1	0 - 0.1
Ethylene oxide (oxirane)	75-21-8	0 - 0.1

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

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

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

Food and drug administration

21 CFR 176.210 (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

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

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. California Proposition 65

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

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	Nov-14-2014
Version #	1.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number NFPA: National Fire Protection Association ACGIH: American Conference of Governmental Industrial Hygienists TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% 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. TLV: Threshold Limit Value
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: Ingredients Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Transport Information: Material Transportation Information GHS: Classification
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

SAFETY DATA SHEET
FOAMTROL* AF3031

1. Identification

Product identifier **FOAMTROL AF3031**

Other means of identification None.

Recommended use An antifoam concentrate

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 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	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. If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.
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. 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	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Normal chemical handling.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Do not freeze. If frozen, thaw completely and mix thoroughly prior to use. 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

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing. Chemical resistant gloves. Impervious gloves. Wash off after each use. Replace as necessary.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Not applicable. 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 sweet
Odor threshold	Not available.
pH in aqueous solution	7.3 (1% EMULSION)
Melting point/freezing point	< -30 °F (< -34 °C)
Initial boiling point and boiling range	> 307 °F (> 153 °C)
Flash point	> 200 °F (> 93 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1 (Air = 1)
Relative density	1.02
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	0 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	360 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Pour point	< -30 °F (< -34 °C)
Specific gravity	1.022
VOC	25 % (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.
Incompatible materials	Strong oxidizing agents. Contact with water reactive compounds may cause fire or explosion.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to respiratory organs.
Skin contact	Prolonged or repeated contact may cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Prolonged and repetitive exposure, depending on the route(s), may develop transient irritation on skin, eyes, ingestion tract, and/or respiratory tract.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
FOAMTROL AF3031 (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)

* 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	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Chronic effects	No evidence of potential chronic effects.

Further information This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
FOAMTROL AF3031 (CAS Mixture)			
	15% Mortality	Fathead Minnow	58 mg/L, Static Renewal Bioassay, 96 hour
	LC50	Fathead Minnow	102 mg/L, Static Renewal Bioassay, 96 hour
Aquatic			
Crustacea	LC50	Daphnia magna	535 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	275 mg/L, Static Renewal Bioassay, 48 hour

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- **COD (mgO2/g)** 2286 (calculated data)
- **BOD 5 (mgO2/g)** 285 (calculated data)
- **BOD 28 (mgO2/g)** 495 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 22 (calculated data)
- **TOC (mg C/g)** 463 (calculated data)

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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.
All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical 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.

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).

Food and drug administration 21 CFR 176.210 & 176.200 (antifoams approved for use in wet end applications and in coating formulations)

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 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
Propylene oxide (CAS 75-56-9)	Listed: October 1, 1988

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

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Proposition 65

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

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

Issue date Nov-10-2014

Revision date	Dec-17-2017
Version #	1.1
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
References:	No data available
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. 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	GHS: Classification

Rhodia

Material Safety Data Sheet

SULFURIC ACID

Date Prepared: 5/07/97

1. PRODUCT AND COMPANY DESCRIPTION

RHODIA INC.
ECO SERVICES
3 Enterprise Drive
Box 881
Shelton CT 06484

Emergency Phone Numbers:
FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300 within the United States or 703-527-3887 for international collect calls) or Rhodia CAERS (Communication and Emergency Response System) at 800-916-3232.

For Product Information:
(800) 642-4200

Chemical Name or Synonym:
SULFURIC ACID

Molecular Formula:
H_2SO_4

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA Hazard	Percentage
SULFURIC ACID	7664-93-9	Y	65 - 100
WATER	7732-18-5	N	BALANCE

3 HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

Physical Appearance and Odor:
colorless oily liquid, odorless.

Warning Statements:
DANGER! CAUSES SEVERE BURNS. REACTS VIOLENTLY WITH WATER. CONTENTS MAY BE UNDER PRESSURE OF EXPLOSIVE, FLAMMABLE HYDROGEN GAS. HIGHLY REACTIVE AND CAPABLE OF IGNITING COMBUSTIBLE MATERIAL ON CONTACT.

B. POTENTIAL HEALTH EFFECTS:

Acute Eye:
Corrosive. Causes burns, tissue destruction, Can cause blindness.

Acute Skin:
Corrosive. Causes redness, inflammation, burns.

Acute Inhalation:
Harmful if inhaled. Causes upper respiratory tract irritation, lung irritation, chest pain, wheezing, shortness of breath, a burning sensation, tickling of the nose and throat, sneezing.

Acute Ingestion:
Harmful if ingested. Can cause irritation, abdominal pain, corrosion, burns to mouth and esophagus, death.

Chronic Effects:
This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).

4. FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:

Eye Exposure:
Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention.

Skin Exposure:
In case of contact, immediately wash with plenty of water for at least 15 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

Inhalation:
Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Ingestion:
If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:
Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

NOTES TO PHYSICIAN:
All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

This material is an acid. The primary toxicity of this product is due to its irritant effects on mucous membranes.

INHALATION: If cough or shortness of breath occurs, evaluate the possibility of bronchitis or pneumonitis. Chest x-ray and arterial blood gases can be used to determine the presence of pulmonary edema. In severe cases, use of humidified oxygen and assisted ventilation including positive end expiratory pressure (PEEP) may be needed. Parenteral steroids may be useful in limiting the extent of pulmonary damage.

SKIN: Wash exposed area thoroughly with soap and water. Chemical burns from strong acids are generally treated the same as thermal burns.

EYES: Irrigate eyes for 15 minutes with sterile saline. If irritation, pain, swelling, photophobia or lacrimation persist, examination by an ophthalmologist is recommended.

INGESTION: If not already performed by first aid personnel, irrigate mouth with large amounts of water and dilute the acid by having victim drink 4 to 8 ounces of water or milk. DO NOT induce vomiting. Use of gastric lavage is controversial. The advantage of removal of acid must be weighted against the risk of perforation or bleeding. If a large amount of acid (> 1 ml/kg body weight) has been recently ingested, cautious gastric lavage is generally advised if the patient is alert and there is little risk of convulsions. Consultation with a gastroenterologist and/or surgeon is advised. Serious complications such as perforation or stricture of the esophagus may occur requiring care by specialists. Laryngeal edema may develop requiring intubation or tracheostomy.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

Flash Point:
Not Applicable

Extinguishing Media:
Not combustible. Use extinguishing method suitable for surrounding fire. Recommended (small fires): dry chemical.

Special Fire Fighting Procedures:
Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus with full face-piece and full acid-resistant protective clothing. Fight fire from maximum distance.

Unusual Fire and Explosion Hazards:
Not combustible. Strong oxidizers can react with reducing agents or combustibles producing heat and causing ignition. Reacts violently with water releasing heat and corrosive material.

Hazardous Decomposition Materials (Under Fire Conditions):

oxides of sulfur

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:
Personnel handling this material should be thoroughly trained to handle spills and releases. Do not direct hose streams into an unignited transportation spill (tank truck or tank car).

Containment of Spill:
Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Dike or retain dilution water or water from firefighting for later disposal.

Cleanup and Disposal of Spill:
Pump any free liquid into an appropriate closed container (see Section 7: Handling and Storage). Exercise caution during neutralization as considerable heat may be generated. Carefully neutralize spill with soda ash. Absorb neutralized spill with an inert absorbent. Scrape up and place in appropriate closed container (see Section 7: Handling and Storage).

Environmental and Regulatory Reporting:
Do not flush to drain. Runoff from fire control or dilution water may cause pollution. Dispose of as a hazardous waste. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies. Large spills should be handled according to a predetermined plan. For assistance in developing a plan contact the Technical Service Department using the Product Information phone number in Section 1.

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures:
> -36 C (-33 F)

Handling:
Do not breathe vapors and mists. Do not get on skin or in eyes. This product reacts violently with bases liberating heat and causing spattering.

When diluting an acid, ALWAYS add the acid slowly to water and stir well to avoid spattering. NEVER ADD WATER TO ACID.

Storage:
Store in tightly closed containers. Store in an area that is dry, well-ventilated, diked with impermeable material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks:
The following recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling

procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines:
Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

SULFURIC ACID

	Notes	TWA	STEL
ACGIH		1 mg/cu m	3 mg/cu m
OSHA		1 mg/cu m	

Engineering Controls:
Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

Respiratory Protection:
Where respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against acid gases.

Eye/Face Protection:
Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Skin Protection:
Skin contact must be prevented through the use of permeation resistant clothing, gloves and footwear, selected with regard for use conditions and exposure potential. An emergency shower must be readily accessible to the work area. Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:
Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Wash exposed skin promptly to remove accidental splashes of contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

Physical Appearance:
colorless oily liquid.

Odor:
odorless.

pH:
1 at 1 wt/wt%.

Specific Gravity:
Not Available

Density:
1.6 to 1.8 g/ml at 25 C (77 F).

Water Solubility:
miscible

Melting Point Range:
Not Available

Freezing Point Range:
-36 to -28 C (-33 to -18 F)

Boiling Point Range:
151 to 276 C (304 to 529 F) at 760 mmHg

Vapor Pressure:
1 to 0 mmHg at 40 C (104 F)

Vapor Density:
3.4

Molecular Weight:
98.08

10. STABILITY AND REACTIVITY

Chemical Stability:
This material is stable under normal handling and storage conditions described in Section 7.

Conditions To Be Avoided:
none known

Materials/Chemicals To Be Avoided:
water
strong reducing agents
halogens
bases
metals
nitrogen compounds

Decomposition Temperature Range:
340 C (644 F)

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: thermal
oxides of sulfur

Hazardous Polymerization Will Not Occur.

A[illegible] The Following To Inhibit Hazardous Polymerization:
n[illegible]pplicable

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:
Toxicological Information and Interpretation:
eye - eye irritation, 250 ug/24 hr, rabbit. Severely irritating.

Acute Skin Irritation:
No test data found for product. This product was not tested because strong acids are known to be corrosive and to cause severe tissue destruction.

Acute Dermal Toxicity:
No test data found for product. This product was not tested because strong acids are known to be corrosive and to cause severe tissue destruction.

Acute Respiratory Irritation:
Toxicological Information and Interpretation:
lung - lung irritation, < 5 mg/cu m, human. Mildly irritating.

Acute Inhalation Toxicity:
T[illegible]icological Information and Interpretation:
[illegible]0 - lethal concentration 50% of test species, 510 mg/cu m/2 hr, rat.
LC50 - lethal concentration 50% of test species, 347 ppm/1 hr, rat.

Acute Oral Toxicity:

Toxicological Information and Interpretation:

LD50 - lethal dose 50% of test species, 2140 mg/kg, rat.

Chronic Toxicity:

This product contains the substances that are considered to be "probable" or "suspected" human carcinogens as follows:

Ingredient Name	Regulatory Agency Listing Carcinogen			
	OSHA	IARC	NTP	ACGIH
SULFURIC ACID	No	No	No	A2
OCCUPATIONAL EXPOSURES TO STRONG-INORGANIC-AC ID MISTS CONTAINING	No	1	No	A2

The International Agency for Research on cancer (IARC) has classified strong inorganic acid mists containing sulfuric acid as a known human carcinogen (IARC Category 1). This classification applies only to sulfuric acid when it is generated as a mist. There is still debate in the scientific community whether the studies reviewed by IARC adequately controlled for confounding occupational exposures and personal habits such as cigarette smoking and alcohol consumption. A few epidemiology studies have suggested a possible association between sulfuric acid exposure and laryngeal or lung cancer; however, in all these studies, workers were exposed to many other chemicals, some of which are recognized carcinogens, such as diethylsulfate and nickel. Considering the multiple chemical exposures and other limitations of the studies, we disagree with IARC's conclusion that a cause and effect relationship between cancer and exposure to strong inorganic acid mist containing sulfuric acid has been demonstrated.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ecotoxological Information and Interpretation:

The toxicity of sulfuric acid to fish is dependent on the resulting pH of the water. lethality at a pH of 5.0 or below. required to cause lethality varies depending on the hardness of the water (hard water has some buffering capacity) and the species of fish (some fish are more resistant to the effects of acidity). McKee, JE, and Wolf, HA (Editors), Water Quality Criteria, 2nd ed., Publication No. 3-A, p. 279, California State Water Resources Control Board, Sacramento, CA (rev. 1963).

Chemical Fate Information:

No data found for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

EPA Hazardous Waste - YES

EPA RCRA HAZARDOUS WASTE CODES:
"C" Corrosive; "R" Reactive.

14. TRANSPORTATION INFORMATION

Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification.
The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US Department of Transportation
Hazard Class..... 8
Shipping Name:
SULFURIC ACID
ID Number..... UN1830
Packing Group.... II
Labels..... CORROSIVE
Emergency Guide #.... 137

15. REGULATORY INFORMATION

Inventory Status

Inventory	Status
UNITED STATES (TSCA)	Y
CANADA (DSL)	Y
EUROPE (EINECS/ELINCS)	Y
AUSTRALIA (AICS)	Y
JAPAN (MITI)	Y
SOUTH KOREA (KECL)	Y

Y = All ingredients are on the inventory.
E = All ingredients are on the inventory or exempt from listing.
P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.
N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

FEDERAL REGULATIONS

Inventory Issues:
All functional components of this product are listed on the TSCA Inventory.

SARA Title III Hazard Classes:
Fire Hazard - NO
Reactive Hazard - YES
Release of Pressure - NO

Acute Health Hazard - YES
Chronic Health Hazard - NO

SARA 313 Chemicals
SULFURIC ACID (65 - 100%)

SARA Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

Ingredient	CERCLA/SARA RQ	SARA EHS TPQ
SULFURIC ACID	1000 lbs	1000 lbs
UNLISTED HAZARDOUS WASTES - CHARACTERISTIC OF CORROSIVITY	100 lbs	
UNLISTED HAZARDOUS WASTES - CHARACTERISTIC OF REACTIVITY	100 lbs	

STATE REGULATIONS:
This product does not contain any components that are regulated under California Proposition 65.

16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings--NFPA(R):

3 Health Hazard Rating--Serious
0 Flammability Rating--Minimal
2 Instability Rating--Moderate
0 * NO WATER

National Paint & Coating Hazardous Materials Identification System--HMIS(R):

3 Health Hazard Rating--Serious
0 Flammability Rating--Minimal
2 Reactivity Rating--Moderate

Reason for Revisions:
Change and/or addition made to Section 11, Section 15.

Key Legend Information:
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissable Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IA[illegible] - International Agency for Research on Cancer
N[illegible]ot determined
RPI - Rhone-Poulenc Established Exposure Limits

CHEMTREC	**800-424-9300**
24-HOUR EMERGENCY ASSISTANCE	**800-367-4226**
SHRIEVE CHEMICAL COMPANY	800-367-4226
GENERAL MSDS ASSISTANCE	281-367-4226 *ext.111*
TECHNICAL MSDS ASSISTANCE	281-367-4226 *ext.133*

Disclaimer:
The information herein is given in good faith but no warranty, expressed or implied, is made.

**** End of MSDS Document ****

Safety Data Sheet

Date Printed: 04/05/2017 Date Reviewed: 04/04/2017

Section 1: Identification of the Substance/Mixture and of the Company/ Undertaking

· **Product Identifier:** **Sodium Hypochlorite Solution (10-20%)**

· **Synonyms:** Bleach

· **Product Use:** Various industrial uses.

· Distributor:

Skyhawk Chemicals
701 North Post Oak Road Suite 540
Houston TX 77024 713-957-2200

order@skyhawkchemicals.com

· **Emergency Telephone Number:**
In case of a chemical emergency, contact CHEMTREC (24 hrs) at: +1 (800) 424-9300 (United States, Canada, Puerto Rico, Virgin Islands)

* Section 2: Hazards Identification

· **Hazard Classification:**

GHS09

Aquatic Acute 2 H401 Toxic to aquatic life.

GHS05

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

· **Signal Word:** DANGER

· **Precautionary Statements:**

P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309	If exposed or if you feel unwell:
P310	Immediately call a doctor.
P501	Dispose of contents/container in accordance with local regulations.

· **NFPA Ratings (scale 0 - 4):**

Health = 3
Fire = 0
Reactivity = 2

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Safety Data Sheet
according to 1907/2006/EC, Article 31

Date Printed: 04/05/2017 Version 3 Date Reviewed: 04/04/2017

Product Identifier: Sodium Hypochlorite Solution (10-20%)

(Contd. from Page 1)

· **Additional Information:**
If you do not understand the hazards or safety precautions described in this data sheet, contact your supervisor or safety administrator before handling this product.

Section 3: Composition/Information on Ingredients

· **Dangerous Components:**
· **CAS No. Description**

7681-52-9 sodium hypochlorite, solution 10-20%
Skin Corr. 1B, H314; Aquatic Acute 1, H400

1310-73-2 sodium hydroxide ≤5%
Skin Corr. 1A, H314

Section 4: First Aid Measures

· **General information:**
Rescue personnel must wear appropriate protective equipment during removal of victims from contaminated areas.

· **After Inhalation:**
Remove victim to fresh air.
Administer oxygen if breathing is difficult.
Administer artifical respiration if breathing has stopped.
Onset of symptoms may be delayed up to 48 hours.
Get immediate medical attention.

· **After Skin Contact:**
Remove contaminated clothing and shoes. Wash affected area with soap and water.
Use caution to avoid spreading contamination while washing.
Delayed skin damage is possible if product is not completely washed off.
Get immediate medical attention.

· **After Eye Contact:**
In case of accidental contact, immediately flush eyes with water.
Hold eyelids open to ensure adequate flushing.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical attention.

· **After Swallowing:**
Rinse mouth.
Administer 1-2 glasses of water to dilute ingested material.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
Get immediate medical attention.

· **Most Important Symptoms and Effects:** No further relevant information available.

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according to 1907/2006/EC, Article 31

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Product Identifier: Sodium Hypochlorite Solution (10-20%)

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Section 5: Firefighting Measures

· **Suitable Extinguishing Agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray.

· **Special Firefighting Hazards:**
Decomposes when heated. Decomposition products may cause containers to rupture or explode. May react vigorously with organic materials. Depending on temperature and concentration, decomposition products may include hypochlorous acid, sodium oxide, chlorine gas, sodium chlorate and oxygen. Sodium chlorate crystals may cause fire or explosion if subjected to friction or impact.

· **Protective Equipment:**
In the event of a fire, wear a NIOSH (USA) or CEN (EU) approved self-contained breathing apparatus (SCBA) and full protective clothing.

· **Additional Information:** Evacuate all non-essential personnel from the danger area.

Section 6: Accidental Release Measures

· **Personal Precautions, Protective Equipment and Emergency Procedures:**
In case of a spill or other accidental release of this material, contact your supervisor, safety administrator, or emergency response team immediately.
Restrict access to keep out unauthorized or unprotected personnel.
Stay upwind of spilled material.
Wear appropriate personal protective equipment during all clean-up activities. See Section 8 for more information.
Avoid inhalation and direct contact.
All clean-up personnel must be properly trained.

· **Environmental Precautions:**
Keep spilled material out of sewage/drainage systems and waterways.
This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center +1 (800) 424-8802 is required. See Section 15 for more information.

· **Methods for Containment and Clean-Up:**
Ensure adequate ventilation.
Secure the source of the leak if conditions are safe.
Use neutralizing agent.
Collect using an appropriate absorbent material such as clay or sand.
Place waste in an appropriate container for disposal.
Use care during clean-up to avoid exposure to the material and injury from broken containers.

Section 7: Handling and Storage

· **Precautions for Safe Handling:**
Ensure adequate ventilation.
Avoid inhalation and direct contact.
Wear appropriate personal protective equipment.
Do not mix with water without dilution and agitation to prevent potentially violent reaction.
Do not mix with acids, ammonia, alcohol, ethers or hydrocarbons.

· **Protection Against Fires and Explosions:** No special measures required.

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Safety Data Sheet
according to 1907/2006/EC, Article 31

Product Identifier: Sodium Hypochlorite Solution (10-20%)

(Contd. from Page 3)

· **Conditions for Safe Storage:**
Store in closed, properly labeled containers.
Protect containers from heat, physical damage, ignition sources and incompatible materials.
Have emergency equipment for fires and spills readily available.

· **Additional Information:**
If you do not understand the hazards or safety precautions described in this data sheet, contact your supervisor or safety administrator before handling this product.

Section 8: Exposure Controls/Personal Protection

· **Occupational Exposure Limits:**

7681-52-9 sodium hypochlorite, solution
WEEL (USA) Short-Term Value: 2 mg/m³

1310-73-2 sodium hydroxide
PEL (USA) Eight-Hour Value: 2 mg/m³
REL (USA) Ceiling Limit Value: 2 mg/m³
TLV (USA) Ceiling Limit Value: 2 mg/m³

· **Exposure Controls:**
Use local exhaust ventilation during open transfers.
Check ventilation for proper operation before starting work.
Ensure emergency eyewash and shower facilities are available.

· **General Protective and Hygienic Measures:**
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Follow all safety precautions, posted signs and warnings.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

· **Respiratory Protection:**
An industrial hygiene risk assessment is required to determine appropriate respiratory protection.
An air-purifying respirator may be appropriate under limited exposure conditions.
Perform a respirator fit/seal check after donning.
Protection provided by air-purifying respirators is limited.
Wear a self-contained breathing apparatus (SCBA) if there is a potential for uncontrolled release, exposure levels are not known, or in other circumstances where air-purifying respirators may not provide adequate protection.

· **Hand Protection:**

Chemical resistant gloves.

Work gloves may be worn over chemical resistant gloves.
Wear a second pair of chemical resistant gloves for added protection.
Tape gloves to coveralls or suit, if worn.
Use caution when removing gloves to avoid exposure to hazardous chemicals.

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Product Identifier: Sodium Hypochlorite Solution (10-20%)

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· **Eye/Face Protection:**

Safety glasses with side shields.

Splash goggles/mono-goggles recommended during tasks with high potential for exposure.

· **Body Protection:**
Lab coat recommended for small scale operations.
Tasks with a high probability for splashing or skin contact may require:
Chemical resistant coveralls or apron.
Heavy duty chemical resistant boots.

· **Additional Information:**
If unusual exposures are expected, an industrial hygiene review of work practices, engineering controls and personal protective equipment is recommended.

Section 9: Physical/Chemical Properties

· **Form:**	Liquid
· **Color:**	Light yellow
· **Odor:**	Pungent
· **Odor Threshold:**	Not determined.
· **pH Value at 20 °C (68 °F):**	12.5
· **Melting Point:**	Not determined.
· **Boiling Point:**	Not determined.
· **Flash Point:**	Not applicable.
· **Autoignition Temperature:**	Not determined.
· **Decomposition Temperature:**	Not determined.
· **Lower Explosive Limit (LEL):**	Not determined.
· **Upper Explosive Limit (UEL):**	Not determined.
· **Vapor Pressure at 20 °C (68 °F):**	20 hPa (15 mm Hg)
· **Density:**	Not determined.
· **Vapor Density at 20 °C (68 °F):**	2.6 g/cm³ (21.697 lbs/gal) (air = 1)
· **Evaporation Rate:**	Not determined.
· **Solubility in Water:**	Not determined.
· **Partition Coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	Not determined.

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Product Identifier: Sodium Hypochlorite Solution (10-20%)

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Section 10: Stability and Reactivity

· **Chemical Stability/Reactivity:** Stable if used and stored according to the specifications listed below.

· **Conditions to Avoid:**
Keep away from heat, sparks and open flames.
Keep away from incompatible materials.
Do not mix with water without dilution and agitation to prevent potentially violent reaction.
Do not mix with acids, ammonia, alcohol, ethers or hydrocarbons.

· **Possibility of Hazardous Reactions/Incompatible Materials:**
Keep away from strong acids and bases.
Keep away from strong oxidizers.
Contact with acids releases toxic gases.

· **Hazardous Decomposition Products:**
Decomposes when heated. Decomposition products may cause containers to rupture or explode. May react vigorously with organic materials. Depending on temperature and concentration, decomposition products may include hypochlorous acid, sodium oxide, chlorine gas, sodium chlorate and oxygen. Sodium chlorate crystals may cause fire or explosion if subjected to friction or impact.

* Section 11: Toxicological Information

· **Acute Toxicity:** No data available.

· **Relevant LD/LC50 Values:**

7681-52-9 sodium hypochlorite, solution
Oral LD50 5800 mg/kg (mouse)

1310-73-2 sodium hydroxide
Oral LD50 2000 mg/kg (rat)

· **Skin Irritation:**
Causes severe skin burns and eye damage.

· **Eye Irritation:**
Causes severe skin burns and eye damage.
Causes serious eye damage.

· **Respiratory Irritation:** May cause respiratory irritation.

· **Sensitization/Allergic Reaction:** No data available.

· **Subchronic/Chronic Toxicity:** No data available.

* Section 12: Ecological Information

· **Aquatic Toxicity:** Toxic to aquatic life.

· **Persistence and Degradability:** No data available.

· **Bioaccumulative Potential:** No data available.

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Product Identifier: Sodium Hypochlorite Solution (10-20%)

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Section 13: Disposal Considerations

· **Disposal Instructions:**
Keep spilled material out of sewage/drainage systems and waterways.
Maximize product recovery for reuse or recycling.
Waste materials may be hazardous due to the pH/corrosivity.
Dispose of waste in accordance with applicable laws and regulations.

· **Additional Information:**
It is the responsiblity of the product user to determine at the time of disposal whether a material containing or derived from this product should be classified as hazardous waste.

*
Section 14: Transport Information

· **UN Number:**

· **DOT, ADR, IMDG, IATA** UN1791

· **UN Proper Shipping Name:**

· **DOT:** RQ Hypochlorite solutions

· **ADR:** 1791 Hypochlorite solutions

· **IMDG:** HYPOCHLORITE SOLUTION, MARINE POLLUTANT

· **IATA:** HYPOCHLORITE SOLUTION

· **Transport Hazard Class(es):**

· **DOT:**

· **Class:** 8 Corrosive substances

· **Label:** 8

· **ADR, IMDG**

· **Class:** 8 Corrosive substances

· **Label:** 8

· **IATA:**

· **Class:** 8 Corrosive substances

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Product Identifier: Sodium Hypochlorite Solution (10-20%)

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· **Label:** 8

· **Packing Group:**

· **DOT, ADR, IMDG, IATA** III

· **Environmental Hazards:**

· **Marine Pollutant:** Yes
Symbol (fish and tree)

· **Special Marking (ADR):** Symbol (fish and tree)

· **Special Precautions:** Warning: Corrosive substances

· **EMS Number:** F-A,S-B

· **Segregation Groups:** Hypochlorites

· **Additional Information:**

· **DOT:**

· **Remarks:** This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center +1 (800) 424-8802 is required. See Section 15 for more information.
.
Shippers must consult transportation regulations for packaging instructions, quantity limitations and other regulatory information applicable to the desired mode of transport.

* Section 15: Regulatory Information

· **U.S. Superfund Amendments & Reauthorization Act (SARA) 355 (Extremely Hazardous Substances):**
None of the ingredients are listed.

· **U.S. Superfund Amendments & Reauthorization Act (SARA) 313 (Specific Toxic Chemical Listings):**
None of the ingredients is listed.

· **U.S. Environmental Protection Agency Reportable Quantity:**
7681-52-9 sodium hypochlorite, solution: 100 lbs.

1310-73-2 sodium hydroxide: 1,000 lbs.

· **U.S. Toxic Substances Control Act (TSCA):**
All ingredients are listed.

· **California Proposition 65 Carcinogens:**
None of the ingredients is listed.

· **Canadian Domestic Substances List (DSL):**
All ingredients are listed.

· **Canadian Ingredient Disclosure List (limit 0.1%)**
None of the ingredients are listed.

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Safety Data Sheet
according to 1907/2006/EC, Article 31

Date Printed: 04/05/2017 Version 3 Date Reviewed: 04/04/2017

Product Identifier: Sodium Hypochlorite Solution (10-20%)

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· **Canadian Ingredient Disclosure List (limit 1%):**
All ingredients are listed.

· **Container Labeling According to Regulation (EC) No 1272/2008:**
The product is classified and labeled according to the CLP regulation.

· **Hazard Pictograms:**


GHS09


GHS05

· **Signal Word:** DANGER

· **Hazard Statements:**
H401 Toxic to aquatic life.
H314 Causes severe skin burns and eye damage.

· **Precautionary Statements:**

P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309	If exposed or if you feel unwell:
P310	Immediately call a doctor.
P501	Dispose of contents/container in accordance with local regulations.

Section 16: Other Information

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge at the time it was prepared. Distributor does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, Skyhawk and its subsidiaries cannot guarantee that these are the only hazards that exist. Skyhawk assumes no legal responsibility for loss, damage or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.

· **Department Issuing Safety Data Sheet:** Corporate Environment, Health & Safety

· **Abbreviations & Acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

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IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labeling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· **Sources & References:**

* - Indicates that data has been updated from the previous version.
This Safety Data Sheet conforms to regulation 1907/2006/EC (REACH). This product has been classified in accordance with European CLP regulations (1272/2008/EC) and the U.S. Hazard Communication standard (29 CFR 1910.1200).

Attachment M
Off Site/Third Party Waste

Tech Report 1.0 – 10.b., Pg. 10

Attachment M
Offsite/Third Party Waste

Enterprise Mont Belvieu Hatcherville Complex, on occasion, transports wastewater generated off-site at associated facilities, pipelines and terminals, provided the waste streams are similar in nature to the discharges authorized by this permit.

These include hydrostatic test water from the testing of pipelines and water from a similar process at other Enterprise entities. These waters are generated off-site by other Enterprise facilities. The pipelines transport various hydrocarbon liquids when in normal service. The water will be transported to the Enterprise Mont Belvieu Hatcherville Complex for treatment and discharge.