Administrative Package Cover Page

This file contains the following documents:

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

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

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

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

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

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

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

Energy Transfer GC NGL Fractionators LLC (CN604309419) operates MB Frac VI and VIII (RN109902494), a Energy Transfer GC NGL Fractionators LLC operates an existing Natural Gas processing plant that fractionates Y-grade natural gas liquids into ethane, propane, butane, and natural gasoline. The process uses a low vapor pressure heating medium and cooling is provided using Wet Surface Air Cooling (WSAC) technology. The feedstock and products of the facility are stored in off-site salt dome caverns and transported to and from the facility via pipelines, eliminating the need for on-site feedstock or product storage. The facility is approximately 0.25 miles south of FM 1942 and 0.75 miles east of Cedar Bayou, in Chambers County, Texas. Applicable SIC Code is 1321. The facility discharges through Outfall 001. The facility is located at 8774 FM 1942, in Baytown, Chambers County, Texas 77521. This permit application seeks to remove the WET analysis requirement. We have not failed any WET test since obtaining this permit. If eliminating the WET testing is not possible we request the

frequency of testing be changed to once a year instead of quarterly testing. This permit will not authorize the discharge of pollutants into water in the state.

Discharges from the facility are expected to contain TDS, traces of chloride and traces of TPH. Reverse osmosis reject water, fire system testing, emergency showers, fan cleaning water, non-contact stormwater, air dryer condensate, non-contact cooling water and occasionally hydrostatic test water is treated by using carbon dioxide to control pH and using hydrogen peroxide to control residual chlorine.

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

AGUAS RESIDUALES INDUSTRIALES /AGUAS PLUVIALES

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

Energy Transfer GC NGL Fractionators, LLC (CN604309419) opera MB Frac VI and VIII (RN109602494), una planta de procesamiento de gas natural existente que fracciona líquidos de gas natural de grado Y en etano, propano, butano y gasolina natural. El proceso utiliza un medio de calefacción de baja presión de vapor y el enfriamiento se proporciona utilizando la tecnología de Enfriamiento de Aire de Superficie Húmeda (WSAC). La materia prima y los productos de la instalación se almacenan en cavidades de domo salino fuera del sitio y se transportan hacia y desde la instalación a través de tuberías, eliminando la necesidad de almacenamiento de materia prima o producto en el lugar. La instalación está aproximadamente a 0.25 millas al sur de FM 1942 y a 0.75 millas al este de Cedar Bayou, en el condado de Chambers, Texas. El código SIC aplicable es 1321. La instalación descarga a través de la Salida 001. La instalación está ubicada en 8774 FM 1942, en Baytown, Condado de Chambers, Texas 77521. Esta solicitud de permiso busca eliminar el requisito de análisis WET. No hemos fallado en ninguna prueba WET desde que obtuvimos este permiso. Si no es posible eliminar las pruebas WET, solicitamos que la frecuencia de las pruebas se cambie a una vez al año en lugar de pruebas trimestrales. No se solicitan otros cambios a este permiso. Este permiso no autorizará una descarga de contaminantes en el agua en el estado.

Se espera que las descargas de la instalación contengan TDS, trazas de cloruro y trazas de TPH. Agua de rechazo de ósmosis inversa, pruebas del sistema de incendios, duchas de emergencia, agua de limpieza de ventiladores, aguas pluviales sin contacto, condensado de secadores de aire, agua de enfriamiento sin contacto y ocasionalmente agua de prueba hidrostática está tratado por el uso de dióxido de carbono para controlar el pH y utilizando peróxido de hidrógeno para controlar el cloro residual.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0005350000

APPLICATION. Energy Transfer GC NGL Fractionators LLC, 12353 Eagle Pointe Drive, Mont Belvieu, Texas 77535, which owns a natural gas processing plant, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005350000 (EPA I.D. No. TX0134068) to authorize the removal of the Whole Effluent Toxicity (WET) testing requirement. The facility is located at 8774 Farm-to-Market Road 1942, in Chambers County, Texas 77521. The discharge route is from the plant site to an unnamed tributary; thence to Cedar Bayou Above Tidal. TCEQ received this application on July 31, 2025. 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. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.92944,29.845277&level=18

The application is subject to the goals and policies of the Texas Coastal Management Program and must be consistent with the applicable Coastal Management Program goals and policies.

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

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

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

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

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

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

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 Energy Transfer GC NGL Fractionators LLC at the address stated above or by calling Ms. Desiree Crenshaw, Environmental Supervisor, at 281-638-4012.

Issuance Date: August 11, 2025

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQ0005350000

SOLICITUD. Energy Transfer GC NGL Fractionators LLC, 12353 Eagle Pointe Drive, Mont Belvieu, Texas 77535, que posee una planta de procesamiento de gas natural, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para modificar el Permiso No. WQ0005350000 (EPA I.D. No. TX 0134068) para autorizar la eliminación del requisito de prueba de toxicidad de efluentes totales (WET). La planta está ubicada en el 8774 Farm-to-Market Road 1942 en el Condado de Chambers, Texas 77521. La ruta de descarga es del sitio de la planta a un afluente sin nombre; de allí a Cedar Bayou por encima de la marea. La TCEQ recibió esta solicitud el 31 de julio de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en la biblioteca Sam and Carmena Goss Memorial Branch antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.92944,29.845277&level=18

La solicitud está sujeta a los objetivos y políticas del Programa de Manejo Costero de Texas y debe ser consistente con los objetivos y políticas aplicables del Programa de Manejo Costero.

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

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar

la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

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

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

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

La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. **Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.**

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la

solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos del solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

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

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

También se puede obtener información adicional de Energy Transfer GC NGL Fractionators LLC a la dirección indicada arriba o llamando a Ms. Desiree Crenshaw, Supervisora Ambiental al 281-638-4012.

Fecha de emisión: 11 de agosto de 2025

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 31, 2025

Re: Confirmation of Submission of the Major Amendment with Renewal for Industrial Wastewater Authorization.

Dear Applicant:

This is an acknowledgement that you have successfully completed Major Amendment with Renewal for the Industrial Wastewater authorization.

ER Account Number: ER090112
Application Reference Number: 794864
Authorization Number: WQ0005350000
Site Name: Mb Frac Vi And Viii
Regulated Entity: RN109902494 - Mb Frac Vi And Viii
Customer(s): CN604309419 - Energy Transfer Gc Ngl Fractionators LLC

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

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

Sincerely,
Applications Review and Processing Team
Water Quality Division

Texas Commission on Environmental Quality

Update Domestic or Industrial Individual Permit

WQ0005350000

Site Information (Regulated Entity)

What is the name of the site to be authorized?	MB FRAC VI AND VIII
Does the site have a physical address?	No
Because there is no physical address, describe how to locate this site:	8774 FM 1942 MONT BELVIEU TX 77521
City	MONT BELVIEU
State	TX
ZIP	77521
County	CHAMBERS
Latitude (N) (##.######)	29.845277
Longitude (W) (-###.######)	-94.929444
Primary SIC Code	
Secondary SIC Code	
Primary NAICS Code	
Secondary NAICS Code	
Regulated Entity Site Information	
What is the Regulated Entity's Number (RN)?	RN109902494
What is the name of the Regulated Entity (RE)?	MB FRAC VI AND VIII
Does the RE site have a physical address?	Yes
Physical Address	
Number and Street	8774 FM 1942
City	BAYTOWN
State	TX
ZIP	77521
County	CHAMBERS
Latitude (N) (##.######)	29.845277
Longitude (W) (-###.######)	-94.929444
Facility NAICS Code	
What is the primary business of this entity?	FRACTIONATION OF NATURAL GAS LIQUIDS

Energy -Customer (Applicant) Information (Owner Operator)

How is this applicant associated with this site?	Owner Operator
What is the applicant's Customer Number (CN)?	CN604309419
Type of Customer	Corporation
Full legal name of the applicant:	
Legal Name	Energy Transfer GC NGL Fractionators LLC
Texas SOS Filing Number	801444322
Federal Tax ID	
State Franchise Tax ID	32044534058
State Sales Tax ID	
Local Tax ID	
DUNS Number	795483853
Number of Employees	101-250
Independently Owned and Operated?	Yes
I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.	Yes
Responsible Authority Contact	
Organization Name	Energy Transfer GC NGL Fractionators LLC
Prefix	MR
First	Brad
Middle	
Last	Widener
Suffix	
Credentials	
Title	Vice President of Operations
Responsible Authority Mailing Address	
Enter new address or copy one from list:	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
Routing (such as Mail Code, Dept., or Attn:)	
City	MONT BELVIEU
State	TX
ZIP	77535
Phone (###-###-####)	2813853571
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	brad.widener@energytransfer.com

Billing Contact

Responsible contact for receiving billing statements:

Select the permittee that is responsible for payment of the annual fee.	CN604309419, Energy Transfer GC NGL Fractionators LLC
Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
Prefix	MS
First	DESIREE
Middle	
Last	CRENSHAW
Suffix	
Credentials	
Title	ENVIRONMENTAL SUPERVISOR
Enter new address or copy one from list:	

Mailing Address

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
Routing (such as Mail Code, Dept., or Attn:)	
City	MONT BELVIEU
State	TX
ZIP	77535
Phone (###-###-####)	2816384012
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	wylene.crenshaw@ENERGYTRANSFER.COM

Application Contact

Person TCEQ should contact for questions about this application:

Same as another contact?	
Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
Prefix	MS
First	DESIREE
Middle	

Last	CRENSHAW
Suffix	
Credentials	
Title	ENVIRONMENTAL SUPERVISOR
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
Routing (such as Mail Code, Dept., or Attn:)	
City	MONT BELVIEU
State	TX
ZIP	77535
Phone (###-###-####)	2816384012
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	WYLENE.CRENSHAW@ENERGYTRANSFER.COM

Technical Contact

Person TCEQ should contact for questions about this application:	
Same as another contact?	
Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
Prefix	MS
First	CYNTHIA
Middle	M
Last	SEXTON
Suffix	
Credentials	
Title	ASSOCIATE-ENVIRONMENTAL SPECIALIST
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
Routing (such as Mail Code, Dept., or Attn:)	
City	MONT BELVIEU

State	TX
ZIP	77535
Phone (###-###-####)	2815763616
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	CYNTHIA.SEXTON@ENERGYTRANSFER.COM

DMR Contact

Person responsible for submitting Discharge Monitoring Report Forms:	
Same as another contact?	Billing Contact
Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
Prefix	MS
First	DESIREE
Middle	
Last	CRENSHAW
Suffix	
Credentials	
Title	ENVIRONMENTAL SUPERVISOR
Enter new address or copy one from list:	
Mailing Address:	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
Routing (such as Mail Code, Dept., or Attn:)	
City	MONT BELVIEU
State	TX
ZIP	77535
Phone (###-###-####)	2816384012
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	wylene.crenshaw@ENERGYTRANSFER.COM

Section 1# Permit Contact

Permit Contact#: 1

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	DMR Contact
2) Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
3) Prefix	MS
4) First	DESIREE
5) Middle	
6) Last	CRENSHAW
7) Suffix	
8) Credentials	
9) Title	ENVIRONMENTAL SUPERVISOR

Mailing Address

10) Enter new address or copy one from list	
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	MONT BELVIEU
11.4) State	TX
11.5) ZIP	77535
12) Phone (###-###-####)	2816384012
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	WYLENE.CRENSHAW@ENERGYTRANSFER.COM

Section 2# Permit Contact

Permit Contact#: 2

Person TCEQ should contact throughout the permit term.

1) Same as another contact?	Technical Contact
2) Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
3) Prefix	MS
4) First	CYNTHIA
5) Middle	M
6) Last	SEXTON

7) Suffix	
8) Credentials	
9) Title	ASSOCIATE-ENVIRONMENTAL SPECIALIST
Mailing Address	
10) Enter new address or copy one from list	
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	12353 EAGLE POINTE DR
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	MONT BELVIEU
11.4) State	TX
11.5) ZIP	77535
12) Phone (###-###-####)	2815763616
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	CYNTHIA.SEXTON@ENERGYTRANSFER.COM

Owner Information

Owner of Treatment Facility	
1) Prefix	
2) First and Last Name	BRAD WIDENER
3) Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
4) Mailing Address	12353 Eagle Pointe Drive
5) City	Mont Belvieu
6) State	TX
7) Zip Code	77535
8) Phone (###-###-####)	2813853571
9) Extension	
10) Email	brad.widener@energytransfer.com
11) What is ownership of the treatment facility?	Private
Owner of Land (where treatment facility is or will be)	
12) Prefix	
13) First and Last Name	BRAD WIDENER
14) Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC

15) Mailing Address	12353 Eagle Pointe Drive
16) City	Mont Belvieu
17) State	TX
18) Zip Code	77535
19) Phone (###-###-####)	2813853571
20) Extension	
21) Email	brad.widener@energytransfer.com
22) Is the landowner the same person as the facility owner or co-applicant?	Yes

General Information Renewal-Amendment

1) Current authorization expiration date:	01/30/2026
2) Current Facility operational status:	Active
3) Is the facility located on or does the treated effluent cross American Indian Land?	No
4) What is the application type that you are seeking?	Major Amendment with Renewal
4.1) Describe the proposed changes:	This permit application amendment seeks to remove the WET analysis requirement. We have not failed any WET test since obtaining this permit. WET tests have been carried out from EPA NPDES original permit, but Fracs VI/VIII has been complying with them and understand that they are not necessary due to the type of operation at the site.
5) Current Authorization type:	Industrial Wastewater
5.1) What is your EPA facility classification?	Minor
5.1.1) Are the discharges at your facility subjected to federal effluent limitation guidelines (ELG) 40 CFR Part 400-471?	No
5.1.1.1) Select the applicable fee for the Minor facility that is not subjected to 40 CFR 400-471:	Major Amendment - $350
6) What is the classification for your authorization?	TPDES
6.1) What is the EPA Identification Number?	TX0134068
6.2) Is the wastewater treatment facility location in the existing permit accurate?	Yes
6.3) Are the point(s) of discharge and the discharge route(s) in the existing permit correct?	Yes
6.4) City nearest the outfall(s):	Mont Belvieu
6.5) County where the outfalls are located:	CHAMBERS
6.6) Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?	No
6.7) Is the daily average discharge at your facility of 5 MGD or more?	No
7) Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?	No

Public Notice Information

Individual Publishing the Notices	
1) Prefix	MS
2) First and Last Name	CYNTHIA M SEXTON
3) Credential	
4) Title	ASSOCIATE-ENVIRONMENTAL SPECIALIST
5) Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
6) Mailing Address	12353 EAGLE POINTE DR
7) Address Line 2	
8) City	MONT BELVIEU
9) State	TX
10) Zip Code	77535
11) Phone (###-###-####)	2815763616
12) Extension	
13) Fax (###-###-####)	
14) Email	cynthia.sexton@energytransfer.com
Contact person to be listed in the Notices	
15) Prefix	MS
16) First and Last Name	DESIREE CRENSHAW
17) Credential	
18) Title	Environmental Supervisor
19) Organization Name	ENERGY TRANSFER GC NGL FRACTIONATORS LLC
20) Phone (###-###-####)	2816384012
21) Fax (###-###-####)	
22) Email	WYLENE.CRENSHAW@ENERGYTRANSFER.COM
Bilingual Notice Requirements	
23) Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?	Yes
23.1) Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?	No
23.2) Do the students at these schools attend a bilingual education program at another location?	No
23.3) Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC 89.1205(g)?	No
23.4) Which language is required by the bilingual program?	Spanish

Section 1# Public Viewing Information

County#: 1

1) County	CHAMBERS
2) Public building name	SAM AND CARMENA GOSS MEMORIAL BRANCH LIBRARY
3) Location within the building	TBD
4) Physical Address of Building	1 JOHN HALL DR.
5) City	MONT BELVIEU
6) Contact Name	YOLIE BELT
7) Phone (###-###-####)	2815762245
8) Extension	
9) Is the location open to the public?	Yes

Plain Language

1) Plain Language

[File Properties]

File Name	LANG_Attachment No. 2 - Plain Language Summary.docx
Hash	1514D7EDD10E82F6680162611162E944467BFBC351F1D39DFA89D1C06A76DB79
MIME-Type	application/vnd.openxmlformats-officedocument.wordprocessingml.document

Supplemental Permit Information Form

1) Supplemental Permit Information Form (SPIF)

[File Properties]

File Name	SPIF_Attachment 8 - Suplemental Permit Information Form.docx
Hash	F6830A9A31F22C6BD5FB33B6668CC3F094B57725F1ADE9E2459BB1A5DEA54BF4
MIME-Type	application/vnd.openxmlformats-officedocument.wordprocessingml.document

Industrial Attachments

1) Attach an 8.5"x11", reproduced portion of the most current and original USGS Topographic Quadrangle Map(s) that meets the 1:24,000 scale.

[File Properties]

File Name	MAP_Attachment No. 4 - USGS Map.pdf
Hash	80638D02287D09A5084796C7D3E71A0FA2AF8850B8303A6A167DCA872C3AC035
MIME-Type	application/pdf

2) Public Involvement Plan (TCEQ Form 20960)

[File Properties]

File Name	PIP_Attachment 3 - PIP Form.draft.pdf
Hash	451CFCE5779F73EBB9B1FD6C6BAEC61374F0AA4AFE4AA98EAB761319EB28A8A7
MIME-Type	application/pdf

3) Administrative Report 1.1

[File Properties]

File Name	ARPT_Administrative Report 1.1_Draft_.pdf
Hash	7E0BF56629A279D8A9B065A5C3CC073925640BEF565634F66F1DCE244EBC8914
MIME-Type	application/pdf

4) I confirm that all required sections of Technical Report 1.0 are complete and will be included in the Technical Attachment.	Yes
4.1) I confirm that Worksheet 2.0 (Pollutant Analyses Requirements) is complete and included in the Technical Attachment.	Yes
4.2) I confirm that Worksheet 4.0 (Receiving Waters) is complete and included in the Technical Attachment.	Yes
4.3) Are you planning to include Worksheet 4.1 (Waterbody Physical Characteristics) in the Technical Attachment?	No
4.4) Are you planning to include Worksheet 6.0 (Industrial Waste Contribution) in the Technical Attachment?	No
4.5) Are you planning to include Worksheet 7.0 (Stormwater Discharges Associated with Industrial Activities) to the Technical Attachment?	Yes
4.6) Are you planning to include Worksheet 8.0 (Aquaculture) in the Technical Attachment?	No
4.7) Are you planning to include Worksheet 9.0 (Class V Injection Well Inventory/Authorization) in the Technical Attachment?	No
4.8) Are you planning to include Worksheet 10.0 (Quarries in the John Graves Scenic Riverway) in the Technical Attachment?	No
4.9) Are you planning to include Worksheet 11.0 (Cooling Water System Information) in the Technical Attachment?	No
4.10) Are you planning to include Worksheet 11.1 (Impingement Mortality) in the Technical Attachment?	No
4.11) Are you planning to include Worksheet 11.2 (Source Water Biological Data) in the Technical Attachment?	No
4.12) Are you planning to include Worksheet 11.3 (Entrainment) in the Technical Attachment?	No

4.13) Technical Attachment

[File Properties]

File Name	TECH_Tech Report 1.0_Rev 1 Steers.pdf
Hash	BE5C6577AE855D63CF9BD8E1D6D52815A7777A9D80648994057657FDB18B7F0E
MIME-Type	application/pdf

5) Affected Landowners Map

[File Properties]

File Name	LANDMP_Attachment No. 5 - Adjacent Landowners.pdf
Hash	C87F6219F603386B5E6E72395327B6FD7E78A4BD9C4C0AFE5FA97A374FE3FB03
MIME-Type	application/pdf

6) Landowners Cross Reference List

[File Properties]

File Name	LANDCRL_Attachment AR-6 - Adjacent Landowners List.pdf
Hash	D62A8F7ACAEC32A066A301F8F072482B6DF308C2798451202303942BEEE5DD4F
MIME-Type	application/pdf

7) Landowner Avery Template

[File Properties]

File Name	LANDAT_Attachment No. 6 - Adjacent Landowners Labels.docx
Hash	11B2F4257CE2880DA49E129E369D94D9432378AC936611752B201B071700E098
MIME-Type	application/vnd.openxmlformats-officedocument.wordprocessingml.document

8) Flow Diagram

[File Properties]

File Name	FLDIA_Attachment TR-3 - Water Balance Flow Diagram Revised.pdf
Hash	578385AEE337DC49AB41BF821A5D297191A933091CA4138781E642D042A0D02E
MIME-Type	application/pdf

9) Site Drawing

[File Properties]

File Name	SITEDR_Attachment TR-1 - Facility_Map.pdf
Hash	4849C0A030475B974522F972CE547670DC64A516FDF9054DFFE3964A5F7A3C22
MIME-Type	application/pdf

10) Original Photographs

[File Properties]

File Name	ORIGPH_Attachment No. 7 - Original Photographs.pdf
Hash	74262BF9D3D1BD026A2F7CAB88C787D2BB62DA9648B34A30137B8BC1A03A4327
MIME-Type	application/pdf

11) Design Calculations

[File Properties]

File Name	DES_CAL_No calculations.pdf
Hash	73B6F4B08431AC63971576FE9EE59D3B5C71B045F627B6521AD2B66D639945F4
MIME-Type	application/pdf

12) Solids Management Plan

13) Water Balance

[File Properties]

File Name	WB_Attachment TR-3 - Water Balance Flow Diagram Revised.pdf
Hash	578385AEE337DC49AB41BF821A5D297191A933091CA4138781E642D042A0D02E
MIME-Type	application/pdf

14) Other Attachments

[File Properties]

File Name	OTHER_Attachment TR-4 - List of Water Treatment Chemicals.pdf
Hash	FA6149E70095664D29EFC30D2BF89F10611681AE3BA917657C5DBEE4837251A9
MIME-Type	application/pdf

[File Properties]

File Name	OTHER_Attachment AR-7 - photo_log_map.pdf
Hash	E066CD64737D57F3E0F5BAAA7462BD7E335B6AB9B02BAEEE745491B4323A6DD0
MIME-Type	application/pdf

[File Properties]

File Name	OTHER_Attachment AR-8 - SPIF_USGS_map_.pdf
Hash	45DC6AE32D8FDD3A551D17594DFFEE2244D70B4F864361AF881236AA6740462F
MIME-Type	application/pdf

Certification

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

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

1. I am Brad Widener, the owner of the STEERS account ER050998.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Update Domestic or Industrial Individual Permit WQ0005350000.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OWNER OPERATOR Signature: Brad Widener OWNER OPERATOR

Customer Number:	CN604309419
Legal Name:	Energy Transfer GC NGL Fractionators LLC
Account Number:	ER050998
Signature IP Address:	63.105.50.19
Signature Date:	2025-07-31
Signature Hash:	F70E5BA2D6AA73672309049F7B6CCEBD46951A9669729BEE355B1BDAD6DF0209
Form Hash Code at time of Signature:	63DAD8C4A06CF8A40F177964050BB656D94AA88AE70CE015F4558870C1311CE7

Fee Payment

Transaction by:	The application fee payment transaction was made by ER090112/Hope B Davila
Paid by:	The application fee was paid by CYNTHIA SEXTON
Fee Amount:	$300.00
Paid Date:	The application fee was paid on 2025-07-31
Transaction/Voucher number:	The transaction number is 582EA000678931 and the voucher number is 777440

Submission

Reference Number:	The application reference number is 794864
Submitted by:	The application was submitted by ER090112/Hope B Davila
Submitted Timestamp:	The application was submitted on 2025-07-31 at 13:46:55 CDT
Submitted From:	The application was submitted from IP address 63.105.50.19

Confirmation Number:	The confirmation number is 668312
Steers Version:	The STEERS version is 6.92
Permit Number:	The permit number is WQ0005350000

Additional Information

Application Creator: This account was created by Edwin C Centeno

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Item 1. Affected Landowner Information (Instructions, Page 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: AR-5

b. ☒ that the landowners list has also been provided as mailing labels in electronic format (Avery 5160).

c. Check this box to confirm a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.Provide the source of the landowners' names and mailing addresses: Attachment AR-6

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. Original Photographs (Instructions, Page 37)

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: **AR-7**

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: AR-8

Attachment No. 10

List of chemicals and SDSs

Manufacturers Product ID	Product Use	CASRN/Chemical Composition			Product Classification	Active Ingredient half-life	Frequency of product use	Product Toxicity Data	Concentration in Waste stream
AC-455	Corrosion Inhibitor	7681-57-4	sodium metabisulphite	<20%	Non-persistent	Not Available	Continuously	No relevant information available	Very low
AC-777	Membrane anti-scalent inhibitor	20592-85-2	Phosphonic acid,P,P′,P″-[nitrilotris(methylene)]tris-, sodium salt	10-20%	Non-persistent	Not Available	Continuously	No relevant information available	Very low
		1310-58-3	Potassium hydroxide	<2%					
CL427	Dechlorinator	7722-84-1	Hydrogen Peroxide	10-30%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
CL456	Corrosion Inhibitor	Trade secret			Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
CL2030	Micro biocide and Algicide	5538-94-3	N, N-Dioctyl-N,N-dimethylammonium chloride	50%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		Proprietary solvent							
CL5430	Corrosion Inhibitor	2809-21-4	1-Hydroxyethylidene-1,1-diphosphoric acid	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		7664-38-2	Phosphoric Acid	7-13%					
		95-14-7	Benzotriazole	1-5%					
CL5570	Scale Inhibitor	64665-57-2	Tolyltriazole, sodium salt	1-5%	Non-persistent	Not Available	Continuously	Not determined	Very Low
		64-02-8	Ethylene diamine tetraacetic acid, tetrasodium salt	1-5%					
		1310-73-2	Sodium hydroxide	5-10%					
CL5640	Corrosion Inhibitor	37971-36-1	2−Phosphono−1,2,4−butane tricarboxylic acid	7-13%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
CL5644	Corrosion Inhibitor	77-92-9	Citric acid	5-10%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
FlexPro CL5737	Corrosion Inhibitor	77-92-9	Citric acid	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		7664-93-9	Sulfuric acid	1-5%					
DF20	Foam Control	Proprietary			Non-persistent	Not Available	Continuously	Not determined	Very Low
FFC1	Fin Cleaning Solution	1569-01-3	Propylene glycol n-Propyl Ether (PNP)	<20%	Non-persistent	Not Available	Continuously	Not determined	Very Low
FFCLC	Fin Cleaning Solution	1569-01-3	Propylene glycol n-Propyl Ether (PNP)	<20%	Non-persistent	Not Available	Continuously	Not determined	Very Low
FO120	Defoamer	68002-96-0	Alcohols, C16−18, Ethoxylated Propoxylated	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
FO180	Defoamer	Trade secret			Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
FO220	Defoamer	63148-62-9	Polydimethylsiloxane	10-40%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		64742-47-8	Petroleum distillate hydrotreated light	<10%					
		112926-00-8	Silicon dioxide	<5%					
P873L	Water Clarification Agent	Trade secret			Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
P893L	Water Clarification Agent	1327-41-9	Polyaluminum chloride	60-100%	Not Available	Not Available	Continuously	See Section 12 of product SDS	Very low
RL9075	Reverse Osmosis Treatment	22042-96-2	Diethylenetriamine penta methylene phosphonic acid, sodium salt	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		7631-90-5	Sodium bisulfite	10-30%					
		37971-36-1	2−Phosphono−1,2,4−butane tricarboxylic acid	1-5%					
Carbon Dioxide	pH Control	124-38-9	Carbon Dioxide	100%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
Sodium Bisulfite	Residual Chlorine Control	7631-90-5	Sodium Bisulfite	10-30%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low

Safety Data Sheet

Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

1 Identification

· **Product identifier**

· **Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)**
· **Product code:** AC-455

· **Recommended use and restriction on use**
· **Recommended use:** Water treatment
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Aqua Clear Water Treatment Specialists
8451 Miralani Drive
San Diego, CA 92126
Phone: (858) 270-7655

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

Eye Dam. 1 H318 Causes serious eye damage.
· **Additional information:** Contact with acids liberates toxic gas.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05

· **Signal word:** Danger
· **Hazard statements:**
H318 Causes serious eye damage.
· **Precautionary statements:**
P280 Wear eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center/doctor.
· **Additional information:** Contact with acids liberates toxic gas.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

(Cont'd. on page 2)

Safety Data Sheet
Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 1)

· **Components:**

7681-57-4	sodium metabisulphite	Eye Dam. 1, H318 Acute Tox. 4, H302	<20%

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
· **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Irritating to eyes.
Causes mild skin irritation.
· **Danger:** Causes serious eye damage.
· **Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** None.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

(Cont'd. on page 3)

Safety Data Sheet

Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 2)

Ensure adequate ventilation.

· **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Methods and material for containment and cleaning up**
Towel or mop up material and collect in a suitable container.
For larger spills, add sawdust, chalk or other inert binding material, then sweep up and discard.
Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
Handle with care.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Avoid storage near extreme heat.
Use only receptacles specifically permitted for this substance/product.
Store in cool, dry conditions in well sealed receptacles.
· **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from foodstuffs.
Store away from oxidizing agents.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
7681-57-4 sodium metabisulphite	
REL (USA)	Long-term value: 5 mg/m³
TLV (USA)	Long-term value: 5 mg/m³
EL (Canada)	Long-term value: 5 mg/m³
EV (Canada)	Long-term value: 5 mg/m³
LMPE (Mexico)	Long-term value: 5 mg/m³ A4

· **Exposure controls**
· **General protective and hygienic measures:**

(Cont'd. on page 4)

Safety Data Sheet

Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 3)

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid close or long term contact with the skin.

· **Engineering controls:** No relevant information available.
· **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device when aerosol or mist is formed.
· **Protection of hands:**
Not required under normal conditions of use.
Wear protective gloves to handle contents of damaged or leaking units.
Gloves are advised for repeated or prolonged contact.
Protection may be required for spills.
· **Material of gloves** Rubber gloves
· **Eye protection:**

Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.
· **Body protection:** Protection may be required for spills.
· **Limitation and supervision of exposure into the environment**
No relevant information available.
· **Risk management measures** No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Liquid
Color:	Colorless
· **Odor:**	Nearly odorless
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	Not determined.
· **Flash point:**	The product is not flammable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.

(Cont'd. on page 5)

Safety Data Sheet
Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 4)

Upper:	Not determined.
· **Oxidizing properties:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Density:**	
Relative density:	1.0-1.1
Vapor density:	Not determined.
Evaporation rate:	Not determined.
· **Solubility in / Miscibility with**	
Water:	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Contact with acids releases toxic gases.
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong oxidizing agents.
Reacts with certain metals.
· **Conditions to avoid** Excessive heat.
· **Incompatible materials**
Oxidizers
Strong acids
· **Hazardous decomposition products**
Sulfur oxides (SOx)
Hydrogen sulfide

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**		
7681-57-4 sodium metabisulphite		
Oral	LD50	1600-2000 mg/kg (rat)

· **Primary irritant effect:**
· **On the skin:** Based on available data, the classification criteria are not met.

(Cont'd. on page 6)

Safety Data Sheet
Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 5)

· **On the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** Based on available data, the classification criteria are not met.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

· **NTP (National Toxicology Program):**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Due to available data on eliminability/decomposition and bioaccumulation potential, a prolonged damage of the environment is unlikely.
· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

(Cont'd. on page 7)

Safety Data Sheet

Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 6)

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **UN proper shipping name**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **Transport hazard class(es)**	
· **DOT, ADR, IMDG, IATA**	
· **Class**	Not regulated.
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

(Cont'd. on page 8)

Safety Data Sheet

Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: May 01, 2018 Revision: May 01, 2018

Trade name: AC-455 Oxygen Scavenger Blend (Non-Odorous)

(Cont'd. of page 7)

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** May 01, 2018 / -

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **Sources**
Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
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Website: www.chemtelinc.com

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

1 Identification

· **Product identifier**

· **Trade name: AC-777 Membrane Anti-Scalent**
· **Product code:** AC-777

· **Recommended use and restriction on use**
· **Recommended use:** Water treatment
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Aqua Clear Water Treatment Specialists
8451 Miralani Drive
San Diego, CA 92126
Phone: (858) 270-7655

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS07

· **Signal word:** Warning
· **Hazard statements:**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
· **Precautionary statements:**

P264	Wash thoroughly after handling.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

(Cont'd. on page 2)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 1)

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

20592-85-2	Phosphonic acid,P,P',P''-[nitrilotris(methylene)]tris-, sodium salt Met. Corr.1, H290 Eye Irrit. 2A, H319	10-20%
1310-58-3	Potassium hydroxide Met. Corr.1, H290; Skin Corr. 1A, H314 Acute Tox. 4, H302	<2%

· **Additional information:**
For the wording of the listed Hazard Statements refer to section 16.
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing.
· **After skin contact:**
Immediately rinse with water.
If skin irritation continues, consult a doctor.
Seek immediate medical help for blistering or open wounds.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Cramp
Coughing
Irritant to skin and mucous membranes.
Causes eye irritation.
Gastric or intestinal disorders when ingested.
Nausea in case of ingestion.
· **Indication of any immediate medical attention and special treatment needed:**
No relevant information available.

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Safety Data Sheet
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Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 2)

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** None.
· **Special hazards arising from the substance or mixture** No relevant information available.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Use personal protective equipment as required.
Ensure adequate ventilation.
· **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Methods and material for containment and cleaning up**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
The usual precautionary measures for handling chemicals should be followed.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Avoid splashes or spray in enclosed areas.
Avoid contact with the eyes and skin.
Keep out of reach of children.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Store in cool, dry conditions in well sealed receptacles.
Use only receptacles specifically permitted for this substance/product.
Unsuitable material for receptacle: aluminium.

(Cont'd. on page 4)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 3)

· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with acids.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
1310-58-3 Potassium hydroxide	
REL (USA)	Ceiling limit value: 2 mg/m³
TLV (USA)	Ceiling limit value: 2 mg/m³
EL (Canada)	Ceiling limit value: 2 mg/m³
EV (Canada)	Ceiling limit value: 2 mg/m³
LMPE (Mexico)	Ceiling limit value: 2 mg/m³

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Engineering controls:** No relevant information available.
· **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device in case of insufficient ventilation.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· **Eye protection:**

Safety glasses

· **Body protection:** Protective work clothing
· **Limitation and supervision of exposure into the environment**
No relevant information available.
· **Risk management measures** See Section 7 for additional information.

(Cont'd. on page 5)

Safety Data Sheet
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Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 4)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Liquid
Color:	Light yellow
· **Odor:**	Light
· **Odor threshold:**	Not determined.
· **pH-value:**	~10.5
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	Not determined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not determined.
· **Density:**	
Relative density:	1.25
Vapor density:	Not determined.
Evaporation rate:	Not determined.
· **Solubility in / Miscibility with**	
Water:	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Reacts with oxidizing agents.
Reacts with strong acids.

(Cont'd. on page 6)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 5)

· **Conditions to avoid** Excessive heat.
· **Incompatible materials** Strong acids
· **Hazardous decomposition products**
Carbon monoxide and carbon dioxide
Phosphorus oxides (e.g. P2O5)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
1310-58-3 Potassium hydroxide		
Oral	LD50	273 mg/kg (rat)

· **Primary irritant effect:**
· **On the skin:** Irritant to skin and mucous membranes.
· **On the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

· **NTP (National Toxicology Program):**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

· **Probable route(s) of exposure:**
Eye contact.
Skin contact.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.

(Cont'd. on page 7)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 6)

· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **UN proper shipping name**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **Transport hazard class(es)**	
· **DOT, ADR, IMDG, IATA**	
· **Class**	Not regulated.
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

(Cont'd. on page 8)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 7)

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 302 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 304 (emergency release notification):**
None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**
All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**
None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** March 14, 2017 / -

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods

(Cont'd. on page 9)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: March 14, 2017 Revision: March 14, 2017

Trade name: AC-777 Membrane Anti-Scalent

(Cont'd. of page 8)

DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
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Website: www.chemtelinc.com

Carbon dioxide

Safety Data Sheet

according to ICOP 2014,2019
Issue date: 3/16/2015 Revision date: 4/24/2024 Supersedes: 2/25/2025 Version: 2.0

Warning

SECTION 1: Identification of the hazardous chemical and of the supplier

1.1. Product identifier

Trade name	:	Carbon dioxide, Purified Carbon dioxide
Name	:	Carbon dioxide
CAS-No.	:	124-38-9
Formula	:	CO2

1.2. Other means of identification

Product code	:	ALM/SDS/33

1.3. Recommended use of the chemical and restrictions on use

Recommended use	:	Test gas/Calibration gas. Laboratory use. Use for manufacture of electronic/photovoltaic components. Food application. Industrial and professional uses. Perform risk assessment prior to use. Contact supplier for more information on uses.
Restrictions on use	:	Consumer use.

1.4. Supplier details

AIR LIQUIDE MALAYSIA SDN. BHD.
Lot PT 2317, No. 21, Jalan PTB 1
Kawasan Perindustrian Tangga Batu, Mukim Sungai Udang,
76400 Melaka
Malaysia
T +606-3513512

1.5. Emergency phone number

Emergency number	:	+606-3513512

SECTION 2: Hazards identification

2.1. Classification of the hazardous chemical

Classification according to Industry Code of Practice on chemicals classification and hazard communication (2019)

Gases under pressure : Liquefied gas H280

2.2. Label elements

Labelling according to Industry Code of Practice on chemicals classification and hazard communication (2019)

Hazard pictograms (GHS MY) :

Signal word (GHS MY)	:	Warning
Hazard statements (GHS MY)	:	H280 - Contains gas under pressure; may explode if heated
Precautionary statements (GHS MY)	:	P410+P403 - Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards that do not result in classification

Other hazards which do not result in classification : Asphyxiant in high concentrations,Contact with liquid may cause cold burns/frostbite,The substance/mixture has no endocrine disrupting properties.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

3.1. Substances

Name	Product identifier	%
Carbon dioxide (Main constituent)	CAS-No.: 124-38-9	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of necessary first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

First-aid measures after skin contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms/effects, acute and delayed

Most important symptoms and effects, both acute and delayed : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. See section 11.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : None.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray or fog. Product does not burn, use fire control measures appropriate for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Physicochemical hazards arising from the chemical

Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.

5.3. Special protective equipment and precautions for fire fighters

Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems,If possible, stop flow of product,Use water spray or fog to knock down fire fumes if possible,Move containers away from the fire area if this can be done without risk.

EAC code : 2T

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Act in accordance with local emergency plan. Try to stop release. Evacuate area. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stay upwind. See section 8 of the SDS for more information on personal protective equipment.

6.1.2. For emergency responders

Emergency procedures : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Oxygen detectors should be used when asphyxiating gases may be released. See section 5.3 of the SDS for more information.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and materials for containment and cleaning up

Methods and material for containment and cleaning up : Ventilate area.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe handling of the gas receptacle : Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect containers from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the content of the container. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

Safe use of the product : The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularily) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis. Do not breathe gas. Avoid release of product into work area.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities : Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

SECTION 8: Exposure controls and personal protection

8.1. Control parameters

Carbon dioxide (124-38-9)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Kohlenstoffdioxid
AGW (OEL TWA) [1]	9100 mg/m³
AGW (OEL TWA) [2]	5000 ppm
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich)
Regulatory reference	TRGS900
United Kingdom - Occupational Exposure Limits	
Local name	Carbon dioxide
WEL TWA (OEL TWA) [1]	9150 mg/m³
WEL TWA (OEL TWA) [2]	5000 ppm
WEL STEL (OEL STEL)	27400 mg/m³
WEL STEL (OEL STEL) [ppm]	15000 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
USA - ACGIH - Occupational Exposure Limits	
Local name	Carbon dioxide
ACGIH OEL TWA [ppm]	5000 ppm
ACGIH OEL STEL [ppm]	30000 ppm
Remark (ACGIH)	TLV® Basis: Asphyxia
Regulatory reference	ACGIH 2023

Exposure limit values for the other components

No additional information available

8.1.1 Biological monitoring

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available). Consider the use of a work permit system e.g. for maintenance activities.

8.3. Individual protection measures, such as PPE

Hand protection:
Wear cold insulating gloves when transfilling or breaking transfer connections. Standard EN 511 - Cold insulating gloves. Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher.

Eye protection:
Wear goggles when transfilling or breaking transfer connections. Standard EN 166 - Personal eye-protection - specifications

Respiratory protection:
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

Personal protective equipment symbol(s):

Thermal hazard protection	:	None in addition to the above sections.
Environmental exposure controls	:	None necessary.

SECTION 9: Physical and chemical properties

Physical state	:	Gas
Appearance	:	No data available
Colour	:	Colourless.
Odour	:	Odourless.
Odour threshold	:	Odour threshold is subjective and inadequate to warn of overexposure.
pH	:	Not applicable for gases and gas mixtures.
Melting point	:	-78.5 °C Melting point at normal conditions does not exist. At atmospheric pressure solid carbon dioxide sublimes into gaseous carbon dioxide at -78.5°C
Freezing point	:	No data available
Boiling point	:	-56.6 °C
Flash point	:	Not applicable for gases and gas mixtures.
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Non flammable.
Explosive limits	:	Upper explosion limit: Not applicable. Lower explosion limit: Not applicable.
Vapour pressure	:	Vapour pressure: 57.3 bar(a) Vapour pressure at 50°C: No reliable data available.
Relative vapour density at 20°C	:	Not applicable.
Relative density	:	0.82 Relative gas density: 1.52
Solubility	:	Water: 2000 mg/l
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	0.83
Critical temperature	:	31 °C
Auto-ignition temperature	:	Non flammable.
Decomposition temperature	:	Not applicable.
Viscosity, kinematic	:	Not applicable for gases and gas mixtures.
Viscosity, dynamic	:	No reliable data available.
Explosive properties	:	Not applicable.
Density	:	Not applicable for gases and gas mixtures.
Critical pressure	:	7375 kPa
Molecular mass	:	44 g/mol
Oxidising properties	:	Not applicable.
Additional information	:	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

Reactivity	:	No reactivity hazard other than the effects described in sub-sections below.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None.
Conditions to avoid	:	Avoid moisture in installation systems.
Incompatible materials	:	None,For additional information on compatibility refer to ISO 11114.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion or irritation	:	Not classified pH: Not applicable for gases and gas mixtures.
Serious eye damage or eye irritation	:	Not classified
Respiratory sensitization	:	Not classified
Skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (STOT) – single exposure	:	Not classified
Specific target organ toxicity (STOT) – repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

Carbon dioxide (124-38-9)	
Viscosity, kinematic	Not applicable for gases and gas mixtures.

Other information : Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained. 5% CO_2 has been found to act synergistically to increase the toxicity of certain other gases (CO, NO_2). CO_2 has been shown to enhance the production of carboxy- or met-hemoglobin by these gases possibly due to carbon dioxide's stimulatory effects on the respiratory and circulatory systems. For more information, see 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' at www.eiga.eu. The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	:	No ecological damage caused by this product.
Hazardous to the aquatic environment, short–term (acute)	:	Not classified
Hazardous to the aquatic environment, long–term (chronic)	:	Not classified

Carbon dioxide (124-38-9)	
Partition coefficient n-octanol/water (Log Kow)	0.83

12.2. Persistence and degradability

Carbon dioxide (124-38-9)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Carbon dioxide (124-38-9)	
Partition coefficient n-octanol/water (Log Kow)	0.83
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Carbon dioxide (124-38-9)	
Mobility in soil	No additional information available
Partition coefficient n-octanol/water (Log Kow)	0.83

Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

12.5. Other adverse effects

Ozone : Not classified
Effect on global warming : When discharged in large quantities may contribute to the greenhouse effect,Contains greenhouse gas(es).
GWP 100 years : 1
Effect on the ozone layer : None.
Other adverse effects : No known effects from this product.

SECTION 13: Disposal information

13.1. Disposal methods

Waste treatment methods : May be vented to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Return unused product in original container to supplier.
Additional information : External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transportation information

14.1. UN number

UN-No.(UN RTDG) : 1013
UN-No. (IMDG) : 1013
UN-No. (IATA) : 1013

14.2. UN proper shipping name

Proper Shipping Name (UN RTDG) : CARBON DIOXIDE
Proper Shipping Name (IMDG) : CARBON DIOXIDE
Proper Shipping Name (IATA) : Carbon dioxide

14.3. Transport hazard class(es)

UN RTDG
Transport hazard class(es) (UN RTDG) : 2.2
Danger labels (UN RTDG) : 2.2
:

IMDG
Transport hazard class(es) (IMDG) : 2.2
Danger labels (IMDG) : 2.2
:

IATA
Transport hazard class(es) (IATA) : 2.2
Danger labels (IATA) : 2.2
:

14.4. Packing Group, if applicable

Packing group (UN RTDG)	:	Not applicable
Packing group (IMDG)	:	Not applicable
Packing group (IATA)	:	Not applicable

14.5. Environmental hazards

Dangerous for the environment	:	No
Marine pollutant	:	No
Other information	:	No supplementary information available

14.6. Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

Special transport precautions	:	Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product containers: - Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

UN RTDG

Special provisions (UN RTDG)	:	378
Limited quantities (UN RTDG)	:	120 ml
Excepted quantities (UN RTDG)	:	E1
Packing instruction (UN RTDG)	:	P200

IMDG

Special provisions (IMDG)	:	378, 392
Limited quantities (IMDG)	:	120 ml
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P200
EmS-No. (Fire)	:	F-C - FIRE SCHEDULE Charlie - NON-FLAMMABLE GASES
EmS-No. (Spillage)	:	S-V - SPILLAGE SCHEDULE Victor - GASES (NON-FLAMMABLE, NON-TOXIC)
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	Liquefied, non-flammable gas.Heavier than air (1.5). Cannot remain in the liquid state above 31°C.

IATA

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	200
PCA max net quantity (IATA)	:	75kg
CAO packing instructions (IATA)	:	200
CAO max net quantity (IATA)	:	150kg
Special provisions (IATA)	:	A202
ERG code (IATA)	:	2L

14.7. Special precautions for user

IBC code	:	Not applicable.

14.8. Hazchem or Emergency Action Code

EAC code	:	2T.

SECTION 15: Regulatory information

15.1. Safety, health, and environmental regulations specific for the hazardous chemical in question

Carbon dioxide (124-38-9)	
EHS Notification and Registration Scheme	Not applicable
EHS Notification and Registration Scheme	Not applicable

Environmental Quality (Chlorofluorocarbons Prohibition) Order 1993	
Environmental Quality (Industrial Effflluent) Regulations 2009	
Environmental Quality (Scheduled Wastes) Regulations 2007	
Control of Industrial Major Accident Hazards Regulations 1996	
Prohibition of Use of Substance Order 1999	
Use and Standards of Exposure of Chemical Hazardous to Health Regulations 2000	
Chemical Weapons Convention Act	
Corrosive and Explosive Substances and Offensive Weapons Act	
Dangerous Drugs Act	
Pesticides Act	
Petroleum (Safety Measures) Act	
Poisons Act 1952	
Poisons (Psychotropic Substances) Regulations 1989	

15.2. International agreements

No additional information available

SECTION 16: Other information

Version : 2.0
Issue date : 3/16/2015
Revision date : 24/04/2024
Supersedes : 25/02/2025

Abbreviations and acronyms : ATE - Acute Toxicity Estimate
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
EINECS - European Inventory of Existing Commercial Chemical Substances
CAS# - Chemical Abstract Service number
PPE - Personal Protection Equipment
LC50 - Lethal Concentration to 50 % of a test population
RMM - Risk Management Measures
PBT - Persistent, Bioaccumulative and Toxic
vPvB - Very Persistent and Very Bioaccumulative
STOT- SE : Specific Target Organ Toxicity - Single Exposure
CSA - Chemical Safety Assessment
EN - European Standard
UN - United Nations
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA - International Air Transport Association
IMDG code - International Maritime Dangerous Goods
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
WGK - Water Hazard Class
STOT - RE : Specific Target Organ Toxicity - Repeated Exposure
UFI : Unique Formula Identifier

Training advice : The hazard of asphyxiation is often overlooked and must be stressed during operator training. For more guidance, refer to EIGA SL 01 “Dangers of Asphyxiation”, downloadable at http://www.eiga.eu..

Other information : Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP). Key literature references and sources of data are maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at http://www.Eiga.eu .

Safety Data Sheet (SDS), Malaysia_AL

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL427
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	April 24, 2019
Revision Date:	April 24, 2019
Revision Number:	19042401AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Eye damage/irritation – Category 1
Acute Toxicity Oral – Category 4
Hazardous to the aquatic environment Acute – Category 2
Oxidizing Liquids – Category 2

Hazard Statement(s):

H318 Causes serious eye damage.
H302 Harmful if swallowed.
H401 Toxic to aquatic life.
H272 May intensify fire; oxidizer.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well–ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release into the environment.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from clothing and other combustible materials.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use extinguishing media suitable to surrounding fire to extinguish.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Hydrogen peroxide	7722–84–1	10 – 30

Comments

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

Section 4. First Aid Measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re−use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Product is an oxidizer. Oxidizers may increase the intensity of a fire.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

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

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: None.

Section 7. Handling and Storage

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

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Avoid contamination from any source, including metals, dust, and organic. Keep drum upright. Do not roll. Store inside only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Hydrogen peroxide	ACGIH TLV	1.4 mg/m³ TWA
	OSHA PEL	1.4 mg/m³ TWA

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

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full–face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick–drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Colorless, Clear
Specific Gravity:	1.102 @ 20°C
pH:	2.9 @ 20°C, 100.0%
Freezing Point:	–2°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	>1
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:	9.19 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 bases, Reducing agents, Excessive heat, Metals or metal oxides.

Hazardous Decomposition Products: Oxygen gas.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Hydrogen peroxide	Oral	LD50	500 MG/KG	Rat
ChemTreat CL427	Oral	LD50	1193 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Hydrogen peroxide	ACGIH	TLV–A3	Confirmed animal carcinogen with unknown relevance to humans
	IARC	IARC–3	Unclassifiable as to carcinogenicity in humans
	MAK	MAK–4	Carcinogenic potential for which genotoxicity plays no role–no significant human risk

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Fathead Minnow	96h	LC50	16.4 mg/l
Ide	72h	LC50	35 mg/l
Daphnia pulex	48h	EC50	2.4 mg/l
Daphnia magna	24h	EC50	7.7 mg/l
Algae	72h	EC50	1.38 ppm
Daphnia magna	21d	NOEC	0.63 ppm
Mysid Shrimp	48h	LC50	18.8 mg/l
Sheepshead Minnow	96h	LC50	308 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Based on active ingredient

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA ignitibility characteristic hazardous waste D001 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION (27%)	N/A	5.1, 8	PGII
IMDG	UN2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION (27%)	N/A	5.1, 8	PGII
TDG	UN2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION (27%)	N/A	5.1, 8	PGII
ICAO	UN2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION (27%)	N/A	5.1, 8	PGII

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
Hydrogen peroxide	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Hydrogen peroxide	MA, MN, NJ, NY, PA, WA

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as kosher pareve.

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	1
PPE:	X

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

Abbreviations

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

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

Revision Date: April 24, 2019

Disclaimer

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

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL456
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	July 23, 2018
Revision Date:	July 23, 2018
Revision Number:	18072301AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non−Hazardous Substance

Hazard Statement(s): Non−Hazardous Substance

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

- **Prevention:** None.
- **Response:** None.
- **Storage:** None.
- **Disposal:** None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

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

Section 4. First Aid Measures

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

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

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

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

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

Specific Hazards Arising from the Chemical: None known.

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

Section 6. Accidental Release Measures

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

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: None.

Section 7. Handling and Storage

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

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

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

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

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full−face shield. Maintain eyewash fountain in work area.
Skin:	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:	1.005 @ 20°C
pH:	7.0 @ 20°C, 100.0%
Freezing Point:	37°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.38 LB/GA
Vapor Pressure:	N/D
% VOC:	<1
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers.

Hazardous Decomposition Products: None known.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	8.9 mg/l
Fathead Minnow	96h	LC50	10.8 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

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

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): 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
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

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

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Revision Date: July 23, 2018

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL2030
Product Use:	Cooling Water Microbiocide and Algicide
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	May 9, 2016
Revision Date:	May 9, 2016
Revision Number:	16050901AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Acute Toxicity Oral – Category 4
Acute Toxicity Inhalation – Category 4
Acute Toxicity Dermal – Category 3
Skin corrosion/irritation – Category 1b
Eye damage/irritation – Category 2a

Hazard Statement(s):

H302 Harmful if swallowed.
H332 Harmful if inhaled.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well–ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response: P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P388 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists, get medical advice/attention.

Storage: P405 Store locked up.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
N,N–Dioctyl–N,N–dimethylammonium chloride	5538–94–3	50
Proprietary solvent	Proprietary	5 – 15

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

Section 4. First Aid Measures

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

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

Skin: Wash with plenty of soap and water. Remove/take off all contaminated clothing. Immediately call a POISON CENTER or doctor/physician.

Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	Probable mucosal damage may contraindicate the use of gastric lavage.

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product emits toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive–pressure, NIOSH approved, self–contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	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.
Protect from heat and sources of ignition.
Do not store above 140°F.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
N,N–Dioctyl–N,N–dimethylammonium chloride	N/E	N/E
Proprietary solvent	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.

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

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

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	0.962 @ 20°C
pH:	8.8 @ 20°C, 100.0%
Freezing Point:	25°F
Flash Point:	>200.1°F
Odor:	Moderate
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	203°F
Solubility in Water:	Soluble
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/D
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.02 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong acids.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of nitrogen, Toxic vapors/fumes/gases.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
ChemTreat CL2030	Oral	LD50	360 MG/KG	Mouse
	Dermal	LD50	259 MG/KG	Rabbit
	Inhalation	LC50	10 MG/L	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
N,N–Dioctyl–N,N–dimethylammonium chloride	N/E	N/E	N/E
Proprietary solvent	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Bluegill Sunfish	48h	LC50	0.1 mg/l
Rainbow Trout	96h	LC50	0.7 mg/l
Daphnia magna	48h	EC50	0.1 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

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	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII
TDG	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII
IMDG	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII
ICAO	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII

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
N,N–Dioctyl–N,N–dimethylammonium chloride	N/A	N/A	N/A
Proprietary solvent	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
N,N–Dioctyl–N,N–dimethylammonium chloride	None.
Proprietary solvent	None.

International Regulations

Canada

WHMIS Classification:	N/A
Controlled Product Regulations (CPR):	N/A

Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
FIFRA:	Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 6836–60–15300.
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	1
Physical Hazard:	0
PPE:	X

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

Abbreviations

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

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

Revision Date: May 9, 2016

Disclaimer

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SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL5430
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	March 7, 2017
Revision Date:	March 7, 2017
Revision Number:	17030701AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Skin corrosion/irritation − Category 1b
Eye damage/irritation − Category 1
Acute Toxicity Dermal − Category 4
Acute Toxicity Inhalation − Category 4
Acute Toxicity Oral − Category 4

Hazard Statement(s):

H314 Causes severe skin burns and eye damage.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H302 Harmful if swallowed.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well−ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
1−Hydroxyethylidene−1,1−diphosphonic acid	2809−21−4	1 − 5
Phosphoric acid	7664−38−2	7 − 13
Benzotriazole	95−14−7	1 − 5

Comments

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

Section 4. First Aid Measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re−use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

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

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1−800−424−8802.

Section 7. Handling and Storage

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

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

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
1−Hydroxyethylidene−1,1−diphosphonic acid	N/E	N/E
Phosphoric acid	ACGIH TLV	3 mg/m³ STEL
	OSHA PEL	1 mg/m³ TWA
Benzotriazole	N/E	N/E

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

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full−face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick−drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.193 @ 20°C
pH:	1.2 @ 20°C, 100.0%
Freezing Point:	41°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.95 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of nitrogen, Oxides of carbon, Oxides of phosphorus.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
1−Hydroxyethylidene−1,1−diphosphonic acid	Oral	LD50	2400 MG/KG	Rat
	Dermal	LD50	7940 MG/KG	Rabbit
Phosphoric acid	Dermal	LD50	2740 MG/KG	Rabbit
	Oral	LD50	1530 MG/KG	Rat
Benzotriazole	Oral	LD50	560 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
1−Hydroxyethylidene−1,1−diphosphonic acid	N/E	N/E	N/E
Phosphoric acid	N/E	N/E	N/E
Benzotriazole	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	2176 mg/l
Fathead Minnow	96h	LC50	3186 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(PHOSPHORIC ACID)	8	PGIII
IMDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(PHOSPHORIC ACID)	8	PGIII

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
1−Hydroxyethylidene−1,1−diphosphonic acid	N/A	N/A	N/A
Phosphoric acid	No	N/A	5000
Benzotriazole	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
1−Hydroxyethylidene−1,1−diphosphonic acid	None.
Phosphoric acid	MA, MN, NY, WA
Benzotriazole	None.

International Regulations

Canada

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

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

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health: 3
Flammability: 0
Physical Hazard: 1
PPE: X

Notes:

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

Abbreviations

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

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

Revision Date: March 7, 2017

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL5570
Product Use:	Scale Control
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	July 23, 2018
Revision Date:	July 23, 2018
Revision Number:	18072301AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Skin corrosion/irritation – Category 1b
Eye damage/irritation – Category 1
Acute Toxicity Oral – Category 4
Acute Toxicity Inhalation – Category 4
Carcinogenicity – Category 2
Specific Target Organ Toxicity – Repeated Exposure – Category 2
Corrosive to Metals – Category 1

Hazard Statement(s):

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H302 Harmful if swallowed.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H290 May be corrosive to metals.

Precautionary Statement(s):

Prevention:	P234 Keep only in original packaging. P264 Wash thoroughly after handling. P270 Do not eat, drink, or smoke when using this product. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P271 Use only outdoors or in a well–ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood.
Response:	P390 Absorb spillage to prevent material damage. P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing P312 Call a POISON CENTER or doctor/physician if you feel unwell. P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower P363 Wash contaminated clothing before reuse. P310 Immediately call a POISON CENTER/doctor. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/attention. P314 Get medical advice/attention if you feel unwell.
Storage:	P405 Store locked up. P406 Store in a corrosive resistant container with a resistant inner liner.
Disposal:	P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Tolyltriazole, sodium salt	64665–57–2	1 – 5
Ethylene diamine tetraacetic acid, tetrasodium salt	64–02–8	1 – 5
Sodium hydroxide	1310–73–2	5 – 10

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

Section 4. First Aid Measures

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

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

Skin: Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re–use. Immediately call a poison center or doctor/physician.

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive–pressure, NIOSH approved, self–contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and/or absorb spill with inert material then place in suitable container.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1–800–424–8802. Reportable Quantity of the product is 1471 Gal.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Tolyltriazole, sodium salt	N/E	N/E
Ethylene diamine tetraacetic acid, tetrasodium salt	N/E	N/E
Sodium hydroxide	ACGIH TLV	2 mg/m³ Ceiling
	OSHA PEL	2 mg/m³ TWA

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

Personal Protection

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

Skin: Maintain quick–drench facilities in work area. Wear appropriate chemical resistant gloves.

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

Section 9. Physical and Chemical Properties

Physical State and Appearance: Liquid, Dark Straw, Clear
Specific Gravity: 1.164 @ 20°C
pH: 13.0 @ 20°C, 100.0%
Freezing Point: 28.4°F
Flash Point: N/A
Odor: Mild
Melting Point: N/D
Initial Boiling Point and Boiling Range: N/D
Solubility in Water: N/D
Evaporation Rate: N/D
Vapor Density: N/D
Molecular Weight: N/D
Viscosity: <100 CPS @ 20°C
Flammability (solid, gas): N/D
Flammable Limits: N/A
Autoignition Temperature: N/D
Density: 9.71 LB/GA

Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Oxidizers, Reducing agents, Aluminum/aluminum alloys, Copper/copper alloys, Strong acids.

Hazardous Decomposition Products: Oxides of nitrogen, Oxides of carbon.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Tolyltriazole, sodium salt	Oral	LD50	920 MG/KG	Rat
	Dermal	LD50	>2 G/KG	Rabbit
Ethylene diamine tetraacetic acid, tetrasodium salt	Oral	LD50	3030 MG/KG	Rat
	Dermal	LD50	>5000 MG/KG	Rabbit
Sodium hydroxide	Oral	LD50	300 MG/KG	Rat
	Dermal	LD50	1350 MG/KG	Rabbit
ChemTreat CL5570	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Tolyltriazole, sodium salt	N/E	N/E	N/E
Ethylene diamine tetraacetic acid, tetrasodium salt	N/E	N/E	N/E
Sodium hydroxide	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
N/D	N/D	N/D	N/D

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Not tested.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SODIUM HYDROXIDE AND SODIUM TOLYLTRIAZOLE)	8	PGII
Over 1471 GA	RQ UN1760	CORROSIVE LIQUIDS, N.O.S.	(SODIUM HYDROXIDE AND SODIUM TOLYLTRIAZOLE)	8	PGII

Note: N/A

Section 15. Regulatory Information

Inventory Status

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

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

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

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Tolyltriazole, sodium salt	N/A	N/A	N/A
Ethylene diamine tetraacetic acid, tetrasodium salt	N/A	N/A	N/A
Sodium hydroxide	N/A	N/A	1000

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Tolyltriazole, sodium salt	None.
Ethylene diamine tetraacetic acid, tetrasodium salt	None.
Sodium hydroxide	MA, MN, NY, PA, WA

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product is certified as kosher pareve.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Nederland, TX.

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health: 3
Flammability: 1
Physical Hazard: 0
PPE: X

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

Abbreviations

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

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

Revision Date: July 23, 2018

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL5640
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	June 27, 2017
Revision Date:	June 27, 2017
Revision Number:	17062701AN

Section 2. Hazard(s) Identification

Signal Word: **WARNING**

GHS Classification(s):
Eye damage/irritation – Category 2b
Acute Toxicity Dermal – Category 5
Acute Toxicity Inhalation – Category 5
Acute Toxicity Oral – Category 5

Hazard Statement(s):
H320 Causes eye irritation.
H313 May be harmful in contact with skin.
H333 May be harmful if inhaled.
H303 May be harmful if swallowed.

Precautionary Statement(s):

Prevention: P264 Wash thoroughly after handling.

Response: None.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
2–Phosphono–1,2,4–butane tricarboxylic acid	37971–36–1	7 – 13

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

Section 4. First Aid Measures

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

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

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

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

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

Specific Hazards Arising from the Chemical: None known.

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

Section 6. Accidental Release Measures

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

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: None.

Section 7. Handling and Storage

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

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

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
2–Phosphono–1,2,4–butane tricarboxylic acid	N/E	N/E

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

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full–face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick–drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Amber, Clear
Specific Gravity:	1.178 @ 20°C
pH:	3.1 @ 20°C, 100.0%
Freezing Point:	30°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.82 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of carbon, Oxides of nitrogen.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
2–Phosphono–1,2,4–butane tricarboxylic acid	Oral	LD50	>6500 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
2–Phosphono–1,2,4–butane tricarboxylic acid	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	1768 mg/l
Fathead Minnow	96h	LC50	>10000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

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

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): 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
2–Phosphono–1,2,4–butane tricarboxylic acid	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
2–Phosphono–1,2,4–butane tricarboxylic acid	None.

International Regulations

Canada

WHMIS Classification: D2B (Toxic Material)

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

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Abbreviations

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

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

Revision Date: June 27, 2017

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	FlexPro CL5644
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	July 6, 2016
Revision Date:	July 6, 2016
Revision Number:	16070601AN

Section 2. Hazard(s) Identification

Signal Word: **WARNING**

GHS Classification(s):
Eye damage/irritation – Category 2b
Acute Toxicity Dermal – Category 5
Acute Toxicity Inhalation – Category 5
Acute Toxicity Oral – Category 5

Hazard Statement(s):
H320 Causes eye irritation.
H313 May be harmful in contact with skin.
H333 May be harmful if inhaled.
H303 May be harmful if swallowed.

Precautionary Statement(s):

Prevention: P264 Wash thoroughly after handling.

Response: None.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Citric acid	77–92–9	5 – 10

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

Section 4. First Aid Measures

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

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

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

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

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

Specific Hazards Arising from the Chemical: None known.

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

Section 6. Accidental Release Measures

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

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: None.

Section 7. Handling and Storage

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

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

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Citric acid	N/E	N/E

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

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full–face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick–drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Amber, Clear
Specific Gravity:	1.292 @ 20°C
pH:	3.1 @ 20°C, 100.0%
Freezing Point:	27°F
Flash Point:	N/A
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	10.78 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of carbon, Oxides of nitrogen.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Citric acid	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Mysid Shrimp	48h	LC50	>10000 mg/l
Inland Silverside	96h	LC50	5675 mg/l
Ceriodaphnia dubia	48h	LC50	1504 mg/l
Fathead Minnow	96h	LC50	2549 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

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

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): 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
Citric acid	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Citric acid	None.

International Regulations

Canada

WHMIS Classification: D2B (Toxic Material)

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

Compliance Information

NSF: N/A

Food Regulations: N/A

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

Notes:

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

Abbreviations

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

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

Revision Date: July 6, 2016

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	FlexPro CL5737
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	October 3, 2017
Revision Date:	October 3, 2017
Revision Number:	17100301AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Skin corrosion/irritation − Category 1a
Eye damage/irritation − Category 1
Acute Toxicity Dermal − Category 4
Acute Toxicity Oral − Category 4
Acute Toxicity Inhalation − Category 2
Corrosive to Metals − Category 1
Specific Target Organ Toxicity − Repeated Exposure − Category 2

Hazard Statement(s):

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H312 Harmful in contact with skin.
H302 Harmful if swallowed.
H330 Fatal if inhaled.
H290 May be corrosive to metals.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention:	P234 Keep only in original container. P264 Wash thoroughly after handling. P270 Do not eat, drink, or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P271 Use only outdoors or in a well−ventilated area. P284 Wear respiratory protection.
Response:	P390 Absorb spillage to prevent material damage. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P362 + P364 Take off contaminated clothing and wash it before reuse. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing P310 Immediately call a POISON CENTER/doctor. P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
Storage:	P406 Store in a corrosive resistant container with a resistant inner liner. P403 + P233 Store in a well−ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal:	P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Citric acid	77−92−9	1 − 5
Sulfuric acid	7664−93−9	1 − 5

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

Section 4. First Aid Measures

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

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

Skin: Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re−use. Immediately call a poison center or doctor/physician.

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product may emit toxic gases or fumes under fire conditions. Use water spray to keep containers cool.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1−800−424−8802. Reportable Quantity of the product is 3126 Gal.

Section 7. Handling and Storage

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

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Protect from heat and sources of ignition.
Do not store or handle in aluminum, steel, copper, or their alloys.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Citric acid	N/E	N/E
Sulfuric acid	ACGIH TLV	0.2 ppm TWA
	OSHA PEL	1 mg/m³ TWA; Aerosol

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

Personal Protection

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

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

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

Section 9. Physical and Chemical Properties

Physical State and Appearance: Liquid, Dark Straw, Clear
Specific Gravity: 1.087 − 1.100 @ 20°C
pH: <1.0 @ 20°C, 100.0%
Freezing Point: 32°F
Flash Point: N/A
Odor: Mild
Melting Point: N/A

Initial Boiling Point and Boiling Range:	~225°F
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.14 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Bases, Strong oxidizers, Alkali sensitive metals or alloys, Amines, Metals or metal oxides, Nitrites.

Hazardous Decomposition Products: Hydrogen chloride, Chlorine.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sulfuric acid	Oral	LD50	2140 MG/KG	Rat
	Inhalation	LD50	375 MG/L	Rat
FlexPro CL5737	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Citric acid	N/E	N/E	N/E
Sulfuric acid	NTP	NTP−K	Known to be a human carcinogen

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	2272 mg/l
Fathead Minnow	96h	LC50	>10000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SULFURIC ACID AND CITRIC ACID)	8	PGII
Over 3126 GA	UN1760	RQ CORROSIVE LIQUIDS, N.O.S.	(SULFURIC ACID AND CITRIC ACID)	8	PGII
TDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SULFURIC ACID AND CITRIC ACID)	8	PGII
ICAO	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SULFURIC ACID AND CITRIC ACID)	8	PGII
IMDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SULFURIC ACID AND CITRIC ACID)	8	PGII
ANTT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(SULFURIC ACID AND CITRIC ACID)	8	PGII

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: Yes

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Citric acid	N/A	N/A	N/A
Sulfuric acid	N/A	1000	1000

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Citric acid	None.
Sulfuric acid	MA, MN, NJ, NY, PA, WA

International Regulations

Canada

WHMIS Classification:	D2B (Toxic Material) E (Corrosive Material)
Controlled Product Regulations (CPR):	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
Halal:	This product has not been evaluated for Halal approval.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	1
PPE:	X

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

Abbreviations

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

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

Revision Date: October 3, 2017

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.

Anti. Foam

SOCHEM
SOLUTIONS

Safety Data Sheet

Health Hazard	1
Fire Hazard	0
Reactivity	0

HMIS

PPE

NFPA

Preparation Date: 04/29/13 Revision Date: 04/07/16

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code DF 20
Product Name DF 20

Emergency Telephone Number CHEMTREC: (Call 24 hours) 1-800-424-9300
Or for international calls dial 703-527-3887
(collect calls accepted)

Contact Manufacturer Sochem Solutions, Inc.
P.O. Box 1912 Phone 225-644-3180
Gonzales, LA 70707

Application of Substance *(the preparation)* Industrial Cleaning Chemicals

2. HAZARDS IDENTIFICATION

Emergency Overview

IRRITANT
WARNING 4

HAZARD STATEMENTS:

H315	Causes skin irritation.
H320	Causes eye irritation.
H301	Toxic if swallowed.
H332	Harmful if inhaled.
H317	May cause an allergic skin reaction.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Chemical Name	CAS-No	Weight %	EINECS

Composition / Information on Ingredients Notes:

All ingredients TSCA Listed
We are unaware of any restrictions due to Section 12 B of TSCA.
29CFR Part 1910, Sub part Z (OSHA) Toxic and Hazardous Substances
Part 355, Appendix A (Extremely Hazardous Substances) EPA
TLV for Chemical Substances
Annual Report on Carcinogens

4. FIRST AID MEASURES

Skin Contact	Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse. Call a physician.
Eye Contact	Immediately flush eyes with plenty of water for 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Call a physician.
Inhalation	Remove to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. If breathing is difficult give oxygen. Call a physician.
Ingestion	If swallowed, do not induce vomiting unless instructed by a physician or poison control. Never give anything by mouth to an unconscious person. Call a physician or poison control center.

5. FIRE-FIGHTING MEASURES

Special Protective Equipment	None.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wash thoroughly after handling.
Precautions Environmental	This Product is biodegradable. Follow Federal, State and Local Regulations.
Methods for Clean-up	Pick up with absorbent Material. Flush residue with plenty of water.

7. HANDLING AND STORAGE

Handling & Storage

Safe Handling Advice	Handle in accordance with good industrial hygiene and safety practice.
Storage	Keep container closed when not in use. Store in a cool dry place.
Incompatible products	Strong oxidizing agent. Keep heat, sparks, and fire away.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL	ACGIH TWA

Personal Protective Equipment

Respiratory Protection Not needed.

Hand & Skin Protection Wear protective gloves and clothing.

Face & Eye Protection Wear suitable eye and face protection.

General Hygiene Considerations Wear suitable gloves, eye and face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Creamy white liquid	**Color**	White
Physical State	Liquid with pleasant odor	**pH**	7.5 – 8.0
Flash Point	None	**Auto ignition Temperature**	None
Boiling Point/Range	212 Degrees F		
Solubility	Dispersible in water	**Vapor Density**	Not available
Bulk Density	8.18	**Viscosity**	Not available

10. STABILITY AND REACTIVITY

Chemical Stability Stable.

Incompatible Materials Strong oxidizing agents. Inorganic acids and inorganic bases

Hazardous Decomposition Products Thermal decomposition or combustion can produce carbon monoxide.

Hazardous Polymerization Hazardous polymerization does not occur.

Possibility of Hazardous Reactions None under normal processing conditions

Conditions to Avoid None under normal use

11. TOXICOLOGICAL INFORMATION

Local effects None.

12. ECOLOGICAL INFORMATION

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method The surfactants in this product are biodegradable. Follow Federal, State and Local regulations.

Contaminated Packaging Keep container closed when not in use.

Further Information Wash contaminated clothing before reuse.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name NR COMPOUNDS, CLEANING, LIQUID, NON- REGULATED

Hazard Class
UN-Number
Packing Group
Reportable Quantity (RQ)
ERG Code

15. REGULATORY INFORMATION

Contains no SARA re portables

U.S. Inventories

Chemical Name	TSCA	NJRTK	MRTKL	PARTK

International Inventories

Chemical Name	TSCA	DSL	EINECS	ENCS	IECSC	KECL	PICCS	AICS

16. OTHER INFORMATION

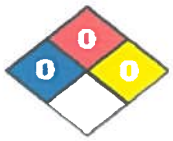
End of SDS

Safety Data Sheet

Health Hazard	0
Fire Hazard	0
Reactivity	0

HMIS

PPE 



NFPA

Preparation Date: 08/20/14 Revision Date: 08/06/15

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code	FFC1	**Contact Manufacturer**	Fin Foam 225-673-2630 3500 Delta Industrial St. Gabriel, LA 70776
Product Name	Fin Foamer Concentrate 1		
Emergency Telephone Number	CHEMTREC: (Call 24 hours) 1-800-424-9300 Or for international calls dial 703-527-3887 (collect calls accepted)	**Application of Substance** *(the preparation)*	Industrial Cleaning Chemicals

2. HAZARDS IDENTIFICATION

Emergency Overview

IRRITANT
WARNING5

HAZARD STATEMENTS: None

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Chemical Name	CAS-No	Weight %	EINECS
Propylene glycol n-Propyl Ether (PNP)	1569-01-3	<20	

Composition / Information on Ingredients Notes:

No component of this product is subject to SARA 313 reporting requirements.
We are unaware of any restrictions due to Section 12 B of TSCA.
29CFR Part 1910, Subpart Z (OSHA) Toxic and Hazardous Substances
Part 355, Appendix A (Extremely Hazardous Substances) EPA
TLV for Chemical Substances
Annual Report on Carcinogens

4. FIRST AID MEASURES

Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Eye Contact	Flush with copious amounts of water for 15 minutes, consult a physician.
Inhalation	Remove person from exposure to fresh air. If person is not breathing, call 911 or an ambulance and then give artificial respiration (CPR). If person is breathing, but with difficulty, get immediate medical attention.
Ingestion	Drink large quantity of water and consult a physician.

5. FIRE-FIGHTING MEASURES

Special Protective Equipment	Although water soluble, it may not be practical to extinguish fire by water dilution. Blanket fire with fire fighting foam.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wash contaminated clothing before reuse.
Precautions Environmental	Avoid direct discharge to natural waterways.
Methods for Clean-up	Confine spread of spill. Absorb with sand or inert material and abide by all local, state, and federal regulations for disposal. Material may initially gel or solidify on contact with water.

7. HANDLING AND STORAGE

Handling & Storage

Safe Handling Advice	Handle in accordance with good industrial hygiene and safety practice. Apron and/or chemical resistant clothing, boots, safety glasses and nitrile gloves are recommended upon conditions of use.
Storage	Spilled material is slippery on walkways and highways. Can foam when hit with a stream of water. Store in plastic, plastic lined steel, tightly closed containers at temperatures between 40 and 100 Degrees F.
Incompatible products	No information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL	ACGIH TWA
Propylene glycol n-Propyl Ether (PNP)	N/A	N/A

Personal Protective Equipment

Respiratory Protection Maintain adequate ventilation.

Hand & Skin Protection Wear protective gloves and clothing.

Face & Eye Protection Wear suitable eye and face protection.

General Hygiene Considerations Wear suitable gloves, eye and face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid	**Color**	Clear
Physical State	Liquid	**pH**	6.0 to 9.0
Flash Point	None	**Autoignition Temperature**	None
Boiling Point/Range	283 Degrees F		
Solubility	Complete in water	**Vapor Density**	Not available
Bulk Density	8.6	**Viscosity**	Not available

10. STABILITY AND REACTIVITY

Chemical Stability Stable.

Incompatible Materials Strong oxidizer, dehydrating agents, or acids.

Hazardous Decomposition Products None under normal use.

Hazardous Polymerization Hazardous polymerization does not occur.

Possibility of Hazardous Reactions None under normal processing conditions

Conditions to Avoid None under normal use

11. TOXICOLOGICAL INFORMATION

Local effects This product is a skin irritant and moderately toxic by ingestion.

12. ECOLOGICAL INFORMATION

Contains no substances know to be hazardous to the environment or not degradable in waster water treatment plants.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method The surfactants in this product are biodegradable. Follow Federal, State and Local regulations.

Contaminated Packaging Keep container closed when not in use.

Further Information Wash contaminated clothing before reuse.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name NR COMPOUNDS, CLEANING, LIQUID, NON- REGULATED

Hazard Class
UN-Number
Packing Group
Reportable Quantity (RQ)
ERG Code

15. REGULATORY INFORMATION

Contains no SARA re-portables.

U.S. Inventories

Chemical Name	TSCA	NJRTK	MRTKL	PARTK
Propylene glycol n-Propyl Ether (PNP)	N/A	N/A	N/A	N/A

International Inventories

Chemical Name	TSCA	DSL	EINECS	ENCS	IECSC	KECL	PICCS	AICS
Propylene glycol n-Propyl Ether (PNP)								

16. OTHER INFORMATION

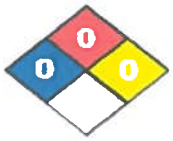
End of SDS

Safety Data Sheet

Health Hazard	0
Fire Hazard	0
Reactivity	0

HMIS

PPE



NFPA

Preparation Date: 08/20/14 Revision Date: 08/07/15

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code	FFCLC	**Contact Manufacturer**	Fin Foam 225-673-2630 3500 Delta Industrial St. Gabriel, LA 70776
Product Name	Fin Foamer Concentrate LC		
Emergency Telephone Number	CHEMTREC: (Call 24 hours) 1-800-424-9300 Or for international calls dial 703-527-3887 (collect calls accepted)	**Application of Substance** *(the preparation)*	Industrial Cleaning Chemicals

2. HAZARDS IDENTIFICATION

Emergency Overview

IRRITANT
WARNINGS

HAZARD STATEMENTS:

H316 Causes mild skin irritation.
H303 May be harmful if swallowed.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Chemical Name	CAS-No	Weight %	EINECS
Propylene glycol n-Propyl Ether (PNP)	1569-01-3	<20	

Composition / Information on Ingredients Notes:

No component of this product is subject to SARA 313 reporting requirements.
We are unaware of any restrictions due to Section 12 B of TSCA.
29CFR Part 1910, Subpart Z (OSHA) Toxic and Hazardous Substances
Part 355, Appendix A (Extremely Hazardous Substances) EPA
TLV for Chemical Substances
Annual Report on Carcinogens

4. FIRST AID MEASURES

Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Eye Contact	Flush with copious amounts of water for 15 minutes, consult a physician.
Inhalation	Remove person from exposure to fresh air. If person is not breathing, call 911 or an ambulance and then give artificial respiration (CPR). If person is breathing, but with difficulty, get immediate medical attention.
Ingestion	Drink large quantity of water and consult a physician.

5. FIRE-FIGHTING MEASURES

Special Protective Equipment	Although water soluble, it may not be practical to extinguish fire by water dilution. Blanket fire with fire fighting foam.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wash contaminated clothing before reuse.
Precautions Environmental	Avoid direct discharge to natural waterways.
Methods for Clean-up	Confine spread of spill. Absorb with sand or inert material and abide by all local, state, and federal regulations for disposal. Material may initially gel or solidify on contact with water.

7. HANDLING AND STORAGE

Handling & Storage

Safe Handling Advice	Handle in accordance with good industrial hygiene and safety practice. Apron and/or chemical resistant clothing, boots, safety glasses and nitrile gloves are recommended upon conditions of use.
Storage	Spilled material is slippery on walkways and highways. Can foam when hit with a stream of water. Store in plastic, plastic lined steel, tightly closed containers at temperatures between 40 and 100 Degrees F.
Incompatible products	No information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	OSHA PEL	ACGIH TWA
Propylene glycol n-Propyl Ether (PNP)	N/A	N/A

Personal Protective Equipment

Respiratory Protection Maintain adequate ventilation.

Hand & Skin Protection Wear protective gloves and clothing.

Face & Eye Protection Wear suitable eye and face protection.

General Hygiene Considerations Wear suitable gloves, eye and face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid	**Color**	Clear
Physical State	Liquid	**pH**	6.0 to 9.0
Flash Point	None	**Autoignition Temperature**	None
Boiling Point/Range	283 Degrees F		
Solubility	Complete in water	**Vapor Density**	Not available
Bulk Density	8.6	**Viscosity**	Not available

10. STABILITY AND REACTIVITY

Chemical Stability Stable.

Incompatible Materials Strong oxidizer, dehydrating agents, or acids.

Hazardous Decomposition Products None under normal use.

Hazardous Polymerization Hazardous polymerization does not occur.

Possibility of Hazardous Reactions None under normal processing conditions

Conditions to Avoid None under normal use

11. TOXICOLOGICAL INFORMATION

Local effects This product is a skin irritant and moderately toxic by ingestion.

12. ECOLOGICAL INFORMATION

Contains no substances know to be hazardous to the environment or not degradable in waster water treatment plants.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method The surfactants in this product are biodegradable. Follow Federal, State and Local regulations.

Contaminated Packaging Keep container closed when not in use.

Further Information Wash contaminated clothing before reuse.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name NR COMPOUNDS, CLEANING, LIQUID, NON- REGULATED

Hazard Class
UN-Number
Packing Group
Reportable Quantity (RQ)
ERG Code

15. REGULATORY INFORMATION

Contains no SARA re-portables.

U.S. Inventories

Chemical Name	TSCA	NJRTK	MRTKL	PARTK
Propylene glycol n-Propyl Ether (PNP)	N/A	N/A	N/A	N/A

International Inventories

Chemical Name	TSCA	DSL	EINECS	ENCS	IECSC	KECL	PICCS	AICS
Propylene glycol n-Propyl Ether (PNP)								

16. OTHER INFORMATION

End of SDS

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat FO120
Product Use:	Defoamer
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	July 23, 2018
Revision Date:	July 23, 2018
Revision Number:	18072301AN

Section 2. Hazard(s) Identification

Signal Word: **WARNING**

GHS Classification(s):
Eye damage/irritation – Category 2a
Skin corrosion/irritation – Category 2
Acute Toxicity Oral – Category 5

Hazard Statement(s):
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H303 May be harmful if swallowed.

Precautionary Statement(s):

Prevention:
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists, get medical advice/attention.

Storage: P402 Store in a dry place.

Disposal: P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Alcohols, C16–18, Ethoxylated Propoxylated	68002–96–0	1 – 5

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

Section 4. First Aid Measures

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

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

Skin: Wash with plenty of soap and water. Take off contaminated clothing and wash before re–use. If skin irritation occurs, seek medical advice/attention.

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive–pressure, NIOSH approved, self–contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and/or absorb spill with inert material then place in suitable container.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not freeze. Store above Freeze Point. If freezes, then product is unusable. Protect from heat and sources of ignition.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Alcohols, C16–18, Ethoxylated Propoxylated	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 Emulsion, White, Opaque
Specific Gravity: 0.992 @ 20°C
pH: N/A
Freezing Point: 37°F
Flash Point: >200°F
Odor: Mild
Melting Point: N/A
Initial Boiling Point and Boiling Range: 212°F
Solubility in Water: Dispersible
Evaporation Rate: >1
Vapor Density: N/D
Molecular Weight: N/D
Viscosity: 150 – 1500 CPS @ 20°C
Flammability (solid, gas): N/D
Flammable Limits: N/A
Autoignition Temperature: N/A
Density: 8.27 LB/GA

Vapor Pressure:	N/A
% VOC:	15.4
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Excessive heat.

Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Alcohols, C16–18, Ethoxylated Propoxylated	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Fathead Minnow	96h	LC50	181.841 mg/l
Ceriodaphnia dubia	48h	LC50	76.188 mg/l
Mysid Shrimp	48h	LC50	659 mg/l
Inland Silverside	96h	LC50	733 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
SCT	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
Alcohols, C16–18, Ethoxylated Propoxylated	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Alcohols, C16–18, Ethoxylated Propoxylated	None.

Compliance Information

NSF: N/A

Food Regulations: FDA: Complies with 21 CFR 176.170 and 21 CFR 176.180 for use in paper and paperboard which contacts food.
FDA: All ingredients in this product are authorized in 21 CFR 173.340 for use as "Defoaming Agents" where the treated water may contact food.

KOSHER: This product has not been evaluated for Kosher approval.

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Abbreviations

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

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

Revision Date: July 23, 2018

Disclaimer

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

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat FO180
Product Use:	Defoamer
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	August 27, 2018
Revision Date:	August 27, 2018
Revision Number:	18082701AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non–Hazardous Substance

Hazard Statement(s): Non–Hazardous Substance

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

- **Prevention:** None.
- **Response:** None.
- **Storage:** None.
- **Disposal:** None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

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

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

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

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

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

Specific Hazards Arising from the Chemical: Use water spray to keep containers cool.

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

Section 6. Accidental Release Measures

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

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: None.

Section 7. Handling and Storage

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

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

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

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

Personal Protection

Eyes:	Safety glasses are recommended if risk of eye contact.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	None needed under normal conditions of use.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid Emulsion, White, Opaque
Specific Gravity:	0.981 @ 20°C
pH:	7.1 @ 20°C, 100.0%
Freezing Point:	32°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Appreciable
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	150 – 500 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.18 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:	Acids, Halogens, Bases.
Hazardous Decomposition Products:	Oxides of carbon.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Fathead Minnow	96h	LC50	3405.5 mg/l
Ceriodaphnia dubia	7d	IC25	4.42 mg/l
	7d	NOEC	2.5 mg/l
	48h	LC50	1768 mg/l
	7d	LOEC	5 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

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

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): 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: No
Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm: Ethylene Oxide, CAS #75–21–8, <=20.0ppm.
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm: Propylene oxide, CAS #75–56–9.

Special Regulations

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

Compliance Information

NSF: N/A

Food Regulations: FDA: Complies with 21 CFR 176.170 and 21 CFR 176.180 for use in paper and paperboard which contacts food.
FDA: All ingredients in this product are authorized in 21 CFR 176.210.

KOSHER: This product has not been evaluated for Kosher approval.

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Abbreviations

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

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

Revision Date: August 27, 2018

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat FO220
Product Use:	Defoamer
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of SDS:	July 23, 2018
Revision Date:	July 23, 2018
Revision Number:	18072301AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s): Aspiration Hazard – Category 1
Specific Target Organ Toxicity – Single Exposure – Category 3

Hazard Statement(s): H304 May be fatal if swallowed and enters airways.
H335 May cause respiratory irritation.

Precautionary Statement(s):

Prevention: P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P243 Take action to prevent static discharges.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response: None.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Polydimethylsiloxane	63148–62–9	10 – 40
Petroleum distillate hydrotreated light	64742–47–8	< 10
Silicon dioxide	112926–00–8	< 5

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

Section 4. First Aid Measures

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

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

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

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

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive–pressure, NIOSH approved, self–contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Protect from heat and sources of ignition. Do not freeze. Store above Freeze Point. If freezes, then product is unusable.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Polydimethylsiloxane	N/E	N/E
Petroleum distillate hydrotreated light	ACGIH TLV	200 mg/m³ TWA
	NIOSH	10 mg/m³ STEL
Silicon dioxide	OSHA PEL	80 mg/m³ STEL

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

Personal Protection

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

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

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

Section 9. Physical and Chemical Properties

Physical State and Appearance: Liquid Emulsion, White, Opaque
Specific Gravity: 1.009 @ 20°C
pH: N/A
Freezing Point: 32°F
Flash Point: >200°F
Odor: Mild
Melting Point: N/A
Initial Boiling Point and Boiling Range: >212°F
Solubility in Water: Dispersible
Evaporation Rate: Similar to water
Vapor Density: Lighter than air
Molecular Weight: N/D
Viscosity: 600 – 2000 CPS @ 20°C
Flammability (solid, gas): N/D

Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.42 LB/GA
Vapor Pressure:	Similar to water
% VOC:	N/D
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Excessive heat.

Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Polydimethylsiloxane	N/E	N/E	N/E
Petroleum distillate hydrotreated light	N/E	N/E	N/E
Silicon dioxide	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	7878 mg/l
Fathead Minnow	96h	LC50	4204 mg/l
	48h	LC50	4665 mg/l
Daphnia pulex	48h	LC50	>10000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ANTT	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
Polydimethylsiloxane	N/A	N/A	N/A
Petroleum distillate hydrotreated light	N/A	N/A	N/A
Silicon dioxide	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Polydimethylsiloxane	None.
Petroleum distillate hydrotreated light	None.
Silicon dioxide	ID, MA, WA

Compliance Information

NSF: N/A

Food Regulations: FDA: All ingredients in this product are authorized in 21 CFR 173.340 for use as "Defoaming Agents" where the treated water may contact food.

KOSHER: This product has not been evaluated for Kosher approval.

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

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Abbreviations

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

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

Revision Date: July 23, 2018

Disclaimer

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

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat P873L
Product Use:	Water Clarification Agent
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	August 25, 2016
Revision Date:	August 25, 2016
Revision Number:	16082501AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non−Hazardous Substance

Hazard Statement(s): Non−Hazardous Substance

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

- **Prevention:** None.
- **Response:** None.
- **Storage:** None.
- **Disposal:** None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

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

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

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

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.
Use water spray or fog.
Firefighting foam
Carbon Dioxide
Dry Chemical

Specific Hazards Arising from the Chemical:	Use water spray to keep containers cool. Carbon oxides, nitrogen oxides, hydrogen chloride, hydrogen cyanide may be product in the event of combustion in an oxygen deficient atmosphere.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and/or absorb spill with inert material then place in suitable container. Material is very slippery if spilled.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

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

Personal Protection

Eyes: Safety glasses are recommended if risk of eye contact.

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

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

Section 9. Physical and Chemical Properties

Physical State and Appearance: Liquid, Light Straw, Clear
Specific Gravity: 1.042 @ 20°C
pH: 5.9 @ 20°C, 100.0%
Freezing Point: 30°F
Flash Point: N/D
Odor: Mild
Melting Point: N/A
Initial Boiling Point and Boiling Range: 212°F
Solubility in Water: Soluble
Evaporation Rate: N/D
Vapor Density: Similar to water
Molecular Weight: N/D
Viscosity: N/A
Flammability (solid, gas): N/D
Flammable Limits: N/A
Autoignition Temperature: N/A
Density: 8.69 LB/GA
Vapor Pressure: Similar to water

% VOC:	0
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of carbon, Oxides of nitrogen, Hydrogen chloride, Hydrogen cyanide.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
ChemTreat P873L	Oral	LD50	>5000 MG/KG	Rat
	Dermal	LD50	>5000 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Fathead Minnow	96h	LC50	2.253 mg/l
Ceriodaphnia dubia	48h	LC50	0.473 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

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

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA−regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

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

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): 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: No
Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

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

International Regulations

Canada

WHMIS Classification: N/A

Controlled Product Regulations (CPR): N/A

Compliance Information

NSF:	Certified to NSF/ANSI Standard 60 Maximum use rate for potable water − 50 mg/L This product ships as NSF from: Ashland, VA Eldridge, IA Nederland, TX Facility #2 USA Facility #3 USA
Food Regulations:	FDA: All ingredients in this product are authorized in 21 CFR 176.170 and 21 CFR 176.180. FDA: GRAS, 21 CFR 570.30 − Generally Recognized as Safe by experts in accordance with the Federal Food, Drug and Cosmetic Act (Section 201s) for their intended use as flocculants and dewatering aids for food processing waste destined for recycling as animal feed, and is subject to the limitations therein.
KOSHER:	This product is certified as Kosher for Passover and year−round use.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Abbreviations

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

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

Revision Date: August 25, 2016

Disclaimer

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat P893L
Product Use:	Water Clarification Agent
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of MSDS:	September 14, 2015
Revision Date:	September 14, 2015
Revision Number:	15091401AN

Section 2. Hazard(s) Identification

Signal Word:	**WARNING**
GHS Classification(s):	Acute Toxicity Dermal − Category 5 Acute Toxicity Inhalation − Category 5 Acute Toxicity Oral − Category 5 Hazardous to the aquatic environment Acute − Category 2
Hazard Statement(s):	May be harmful in contact with skin. May be harmful if inhaled. May be harmful if swallowed. Toxic to aquatic life.
Precautionary Statement(s):	Avoid release into the environment.
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.%
Polyaluminum chloride	1327−41−9	60 − 100

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

Section 4. First Aid Measures

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

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

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

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

Notes to Physician: N/A

Additional First Aid Remarks: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

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

Specific Hazards Arising from the Chemical: 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: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

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

Other Statements: None.

Section 7. Handling and Storage

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

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Protect from heat and sources of ignition.
Do not store or handle in aluminum, steel, copper, or their alloys.
Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Polyaluminum chloride	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:	1.176 @ 20°C
pH:	4.0 @ 20°C, 100.0%
Freezing Point:	34°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Soluble
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.81 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of carbon, Oxides of nitrogen, Hydrogen chloride.

Possibility of Hazardous Reactions: None known.

Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Polyaluminum chloride	N/E	N/E	N/E

Comments: None.

Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	LC50	2.56 mg/l
Ceriodaphnia dubia	48h	LC50	1.148 mg/l
	48h	LC50	0.34 mg/l
Fathead Minnow	96h	LC50	4.218 mg/l
	96h	LC50	4.1 mg/l

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	(POLYALUMINUM CHLORIDE)	8	PGIII
ICAO	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	(POLYALUMINUM CHLORIDE)	8	PGIII
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: When shipped by ground in the U.S., by exception 49 CFR 173.154 (d) (1) not subject to transport as a hazardous material when in authorized packaging that will not react dangerously or be degraded by the corrosive material.

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
Polyaluminum chloride	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Polyaluminum chloride	None.

International Regulations

Canada

WHMIS Classification: E (Corrosive Material)

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

Compliance Information

NSF: Certified to NSF/ANSI Standard 60
Maximum use rate for potable water − 40 mg/L
This product ships as NSF from:
Ashland, VA
Nederland, TX
Facility #4 USA
Facility #7 USA

FDA/USDA/GRAS: N/A

KOSHER: This product has not been evaluated for Kosher approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

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

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined

Abbreviation	Definition
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.

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat RL9075
Product Use:	Reverse Osmosis Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	March 20, 2017
Revision Date:	March 20, 2017
Revision Number:	17032001AN

Section 2. Hazard(s) Identification

Signal Word: **WARNING**

GHS Classification(s):
Eye damage/irritation − Category 2b
Skin corrosion/irritation − Category 2
Acute Toxicity Inhalation − Category 4
Acute Toxicity Oral − Category 5

Hazard Statement(s):
H320 Causes eye irritation.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H303 May be harmful if swallowed.

Precautionary Statement(s): Sulphites may cause sensitization to susceptible individuals.

Prevention:
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well−ventilated area.

Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists, get medical advice/attention.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 If skin irritation develops or persists, get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Diethylenetriamine penta methylene phosphonic acid, sodium salt	22042−96−2	1 − 5
Sodium bisulfite	7631−90−5	10 − 30
2−Phosphono−1,2,4−butane tricarboxylic acid	37971−36−1	1 − 5

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

Section 4. First Aid Measures

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

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

Skin:	Wash with plenty of soap and water. Take off contaminated clothing and wash before re−use. If skin irritation occurs, seek medical advice/attention.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Use water spray to keep containers cool.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1−800−424−8802. Reportable Quantity of the product is 1784 Gal.

Section 7. Handling and Storage

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

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

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Diethylenetriamine penta methylene phosphonic acid, sodium salt	N/E	N/E
Sodium bisulfite	ACGIH TLV	5 mg/m³ TWA
2−Phosphono−1,2,4−butane tricarboxylic acid	N/E	N/E

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

Personal Protection

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

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

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

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Yellow, Clear
Specific Gravity:	1.244 @ 20°C
pH:	2.4 @ 20°C, 100.0%
Freezing Point:	18°F
Flash Point:	N/D
Odor:	Moderate
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	10.38 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong bases.
Hazardous Decomposition Products:	Oxides of carbon.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium bisulfite	Oral	LD50	2000 MG/KG	Rat
2−Phosphono−1,2,4−butane tricarboxylic acid	Oral	LD50	>6500 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Diethylenetriamine penta methylene phosphonic acid, sodium salt	N/E	N/E	N/E
Sodium bisulfite	N/E	N/E	N/E
2−Phosphono−1,2,4−butane tricarboxylic acid	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	493 mg/l
Fathead Minnow	96h	LC50	1768 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

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

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
Over 1784 GA	UN3082	RQ ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	(SODIUM BISULFITE)	9	PGIII
TDG	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

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
Diethylenetriamine penta methylene phosphonic acid, sodium salt	N/A	N/A	N/A
Sodium bisulfite	N/A	N/A	5000
2−Phosphono−1,2,4−butane tricarboxylic acid	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Diethylenetriamine penta methylene phosphonic acid, sodium salt	None.
Sodium bisulfite	MA, MN, NY, PA, WA
2−Phosphono−1,2,4−butane tricarboxylic acid	None.

International Regulations

Canada

WHMIS Classification:	D2B (Toxic Material)
Controlled Product Regulations (CPR):	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Compliance Information

NSF:	Certified to NSF/ANSI Standard 60 Maximum use rate for potable water − 65 mg/L This product ships as NSF from: Ashland, VA Eldridge, IA Nederland, TX
Food Regulations:	N/A
KOSHER:	This product is certified by the Orthodox Union as kosher pareve. Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

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

Notes:

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

Abbreviations

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

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

Revision Date: March 20, 2017

Disclaimer

We create chemistry

Safety Data Sheet
Sodium Bisulfite Solution high purity grade

1. Identification

Product identifier used on the label

Sodium Bisulfite Solution high purity grade

Recommended use of the chemical and restriction on use

Recommended use*: Chemical
Recommended use*: inorganic reducing agents; initial product for chemical syntheses; process chemical
Unsuitable for use: Not intended for sale to or use by the general public.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number
24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification
Chemical family: Aqueous solution based on: sulfites

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Pictogram:

Signal Word:
Warning

Hazard Statement:

H302	Harmful if swallowed.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered. If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

Labeling of special preparations (GHS):
Contact with acids liberates toxic gas.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

sodium hydrogen sulphite
CAS Number: 7631-90-5
Content (W/W): >= 38.0 - <= 42.0%
Synonym: Sodium hydrogensulfite (aqueous solution)

4. First-Aid Measures

Description of first aid measures

General advice:
Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention. After inhalation of decomposition products: Immediately administer a corticosteroid from a controlled/metered dose inhaler. Seek medical attention.

If on skin:
Wash thoroughly with soap and water

If in eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, vomiting, convulsions, circulatory collapse, CNS stimulation, abdominal cramps, hypotension (low blood pressure), gastric hemorrhage, nausea, diarrhea
Hazards: Risk of sulfur dioxide formation by reaction with gastric acid after swallowing.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Product will not burn.

Use extinguishing measures to suit surroundings.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Sulphur dioxide,
The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Contaminated extinguishing water must be disposed of in accordance with official regulations. In case of fire and/or explosion do not breathe fumes.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Breathing protection required.

Avoid contact with the skin, eyes and clothing. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions
Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water.

Methods and material for containment and cleaning up
For small amounts: Pick up with suitable absorbent material.
For large amounts: Pump off product.
Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling
Use only in well-ventilated areas. Do not inhale vapours / aerosols. Avoid contact with skin and eyes. Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:
The substance/product is non-combustible. No special precautions necessary.

Conditions for safe storage, including any incompatibilities
Segregate from acids and acid forming substances. Segregate from oxidants.

Suitable materials for containers: Polyester resin, glass reinforced (Palatal A410), rubberized, Stainless steel 1.4462, Stainless steel 1.4402 (V4A), Stainless steel 1.4404

Further information on storage conditions: Keep away from heat. Keep container tightly closed in a cool, well-ventilated place. Keep container dry. The product consumes oxygen. Danger of lack of oxygen in containers and tanks.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits The substance mentioned develops if the regulation/notes for storage and handling are not observed.

Sulphur dioxide	ACGIH, US:	STEL value 0.25 ppm ;
	OSHA Z1:	PEL 5 ppm 13 mg/m3 ;

sodium hydrogen sulphite ACGIH, US: TWA value 5 mg/m3 ;

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) respirator as necessary.

Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Chemical resistant protective gloves should be worn to prevent all skin contact., Suitable materials may include, nitrile rubber (Buna N), chloroprene rubber (Neoprene), polyvinylchloride (Pylox), Consult with glove manufacturer for testing data., Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapour/spray. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Form:	aqueous solution
Odour:	pungent
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	colourless to yellow
pH value:	3.5 - 5.0 (DIN 19268)
crystallization temperature:	< 5 °C
Melting point:	5 °C
Freezing point:	No data available.
Boiling point:	100 °C (1,013 mbar) Information applies to the solvent.
Boiling range:	No data available.
Flash point:	not applicable
Flammability:	not flammable
Lower explosion limit:	For liquids not relevant for classification and labelling.
Upper explosion limit:	For liquids not relevant for classification and labelling.
Autoignition:	not applicable
Vapour pressure:	approx. 155 mbar (55 °C)

	approx. 124 mbar (50 °C) approx. 24 mbar (20 °C) The vapour pressure of the aqueous solution consists of the partial pressure for water and the partial pressure for sulphur dioxide. 27 hPa (20 °C) 103 hPa (50 °C)	
Density:	1.325 g/cm3 (20 °C)	(DIN 51757)
Information on: sodium hydrogen sulphite		
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
---	---	
Self-ignition temperature:	not self-igniting	
	not self-igniting	
Thermal decomposition:	It is not a self-decompositionable substance.	
Viscosity, dynamic:	3.64 mPa.s (20 °C)	(DIN 51562)
Viscosity, kinematic:	not determined	
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	approx. 515 g/l (20 °C)	
Solubility (quantitative):	approx. 515 g/l (20 °C) The values mentioned are those of the solved solid.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

10. Stability and Reactivity

Reactivity

Oxidizing properties:
not fire-propagating

Chemical stability

Possibility of hazardous reactions
Reacts with nitrites. Reacts with nitrates. Reacts with oxidizing agents. Generation of sulphur dioxide upon exposure to acids. (or conditions.) The product consumes oxygen.

Conditions to avoid
avoid atmospheric oxygen

Incompatible materials
nitrites, nitrates, oxidizing agents, acids

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: Sulphur dioxide

Thermal decomposition:
It is not a self-decompositionable substance.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Information on: sodium hydrogen sulphite
Assessment of acute toxicity:Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Oral

Information on: sodium hydrogen sulphite
Type of value: LD50
Species: rat
Value: approx. 2,610 mg/kg (similar to OECD guideline 401)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Inhalation
Type of value: LC50
Species: rat (male/female)
Value: > 5.5 mg/l (OECD Guideline 403)
Exposure time: 4 h
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Dermal
Type of value: LD50
Species: rat
Value: > 2,000 mg/kg (OECD Guideline 402)
No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Skin
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404
Literature data.

Eye
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405
Literature data.

Sensitization
Assessment of sensitization: A sensitizing effect on particularly sensitive individuals cannot be excluded.

Mouse Local Lymph Node Assay (LLNA)
Species: mouse
Result: Non-sensitizing.
Method: OECD Guideline 429
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No substance-specific organtoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Genetic toxicity
Assessment of mutagenicity: The substance was not mutagenic in a test with mammals.

Carcinogenicity
Assessment of carcinogenicity: No reliable data was available concerning carcinogenic activity. The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Experiences in humans
With sensitive persons it can lead to an over sensitive reaction.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms.

Chronic toxicity to fish
No observed effect concentration (34 d) >= 50 mg/l, Brachydanio rerio (OECD Guideline 210, Flow through.)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Nominal concentration.

Chronic toxicity to aquatic invertebrates
No observed effect concentration (21 d) > 10 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicity to fish

Information on: sodium hydrogen sulphite
LC50 (96 h) 316 mg/l, Leuciscus idus (DIN 38412 Part 15, static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Nominal concentration.

Aquatic invertebrates

Information on: sodium hydrogen sulphite
(48 h) 89 mg/l, Daphnia magna (Directive 79/831/EEC, static)
Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants

Information on: sodium hydrogen sulphite
EC50 (72 h) 43.8 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)
Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of terrestrial toxicity
Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Information on: sodium hydrogen sulphite
OECD Guideline 209 static
activated sludge of a predominantly domestic sewage/EC10 (3 h): 634.4 mg/l
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Inorganic product which cannot be eliminated from water by biological purification processes. Decomposition products formed by microbiotic degradation may affect the activity in biological waste water treatment plants.

Assessment of stability in water
According to structural properties, hydrolysis is not expected/probable.
Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential
Accumulation in organisms is not to be expected.

Bioaccumulation potential
Study scientifically not justified.

Assessment bioaccumulation potential

Information on: sodium hydrogen sulphite

Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments
Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. At the present state of knowledge, no negative ecological effects are expected.

13. Disposal considerations

Waste disposal of substance:
Must be disposed of or incinerated in accordance with local regulations. Observe national and local legal requirements.

Container disposal:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

CERCLA RQ	CAS Number	Chemical name
5000 LBS	7631-90-5	sodium hydrogen sulphite

State regulations

State RTK	CAS Number	Chemical name
NJ	7631-90-5	sodium hydrogen sulphite
PA	7631-90-5	sodium hydrogen sulphite
	7757-82-6	Sodium sulfate

NFPA Hazard codes:
Health: 1 Fire: 0 Reactivity: 0 Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox.	4 (oral)	Acute toxicity
Aquatic Acute	3	Hazardous to the aquatic environment - acute

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2024/10/23

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

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

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

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

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

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

Energy Transfer GC NGL Fractionators LLC (CN604309419) operates MB Frac VI and VIII (RN109902494), a Energy Transfer GC NGL Fractionators LLC operates an existing Natural Gas processing plant that fractionates Y-grade natural gas liquids into ethane, propane, butane, and natural gasoline. The process uses a low vapor pressure heating medium and cooling is provided using Wet Surface Air Cooling (WSAC) technology. The feedstock and products of the facility are stored in off-site salt dome caverns and transported to and from the facility via pipelines, eliminating the need for on-site feedstock or product storage. The facility is approximately 0.25 miles south of FM 1942 and 0.75 miles east of Cedar Bayou, in Chambers County, Texas. Applicable SIC Code is 1321. The facility discharges through Outfall 001. The facility is located at 8774 FM 1942, in Baytown, Chambers County, Texas 77521. This permit application seeks to remove the WET analysis requirement. We have not failed any WET test since obtaining this permit. If eliminating the WET testing is not possible we request the

frequency of testing be changed to once a year instead of quarterly testing. This permit will not authorize the discharge of pollutants into water in the state.

Discharges from the facility are expected to contain TDS, traces of chloride and traces of TPH. Reverse osmosis reject water, fire system testing, emergency showers, fan cleaning water, non-contact stormwater, air dryer condensate, non-contact cooling water and occasionally hydrostatic test water is treated by using carbon dioxide to control pH and using hydrogen peroxide to control residual chlorine.

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

AGUAS RESIDUALES INDUSTRIALES /AGUAS PLUVIALES

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

Energy Transfer GC NGL Fractionators, LLC (CN604309419) opera MB Frac VI and VIII (RN109602494), una planta de procesamiento de gas natural existente que fracciona líquidos de gas natural de grado Y en etano, propano, butano y gasolina natural. El proceso utiliza un medio de calefacción de baja presión de vapor y el enfriamiento se proporciona utilizando la tecnología de Enfriamiento de Aire de Superficie Húmeda (WSAC). La materia prima y los productos de la instalación se almacenan en cavidades de domo salino fuera del sitio y se transportan hacia y desde la instalación a través de tuberías, eliminando la necesidad de almacenamiento de materia prima o producto en el lugar. La instalación está aproximadamente a 0.25 millas al sur de FM 1942 y a 0.75 millas al este de Cedar Bayou, en el condado de Chambers, Texas. El código SIC aplicable es 1321. La instalación descarga a través de la Salida 001. La instalación está ubicada en 8774 FM 1942, en Baytown, Condado de Chambers, Texas 77521. Esta solicitud de permiso busca eliminar el requisito de análisis WET. No hemos fallado en ninguna prueba WET desde que obtuvimos este permiso. Si no es posible eliminar las pruebas WET, solicitamos que la frecuencia de las pruebas se cambie a una vez al año en lugar de pruebas trimestrales. No se solicitan otros cambios a este permiso. Este permiso no autorizará una descarga de contaminantes en el agua en el estado.

Se espera que las descargas de la instalación contengan TDS, trazas de cloruro y trazas de TPH. Agua de rechazo de ósmosis inversa, pruebas del sistema de incendios, duchas de emergencia, agua de limpieza de ventiladores, aguas pluviales sin contacto, condensado de secadores de aire, agua de enfriamiento sin contacto y ocasionalmente agua de prueba hidrostática está tratado por el uso de dióxido de carbono para controlar el pH y utilizando peróxido de hidrógeno para controlar el cloro residual.

INSTRUCTIONS

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789).
3. Choose “operates” in this section for existing facility applications or choose “proposes to operate” for new facility applications.
4. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
5. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789).
6. Choose the appropriate article (a or an) to complete the sentence.
7. Enter a description of the facility in this section. For example: steam electric generating facility, nitrogenous fertilizer manufacturing facility, etc.
8. Choose “is” for an existing facility or “will be” for a new facility.
9. Enter the location of the facility in this section.
10. Enter the City nearest the facility in this section.
11. Enter the County nearest the facility in this section.
12. Enter the zip code for the facility address in this section.
13. Enter a summary of the application request in this section. For example: renewal to discharge 25,000 gallons per day of treated domestic wastewater, new application to discharge process wastewater and stormwater on an intermittent and flow-variable basis, or major amendment to reduce monitoring frequency for pH, etc. If more than one outfall is included in the application, provide applicable information for each individual outfall.
14. List all pollutants expected in the discharge from this facility in this section. If applicable, refer to the pollutants from any federal numeric effluent limitations that apply to your facility.
15. Enter the discharge types from your facility in this section (e.g., stormwater, process wastewater, once through cooling water, etc.)
16. Choose the appropriate verb tense to complete the sentence.
17. Enter a description of the wastewater treatment used at your facility. Include a description of each process, starting with initial treatment and finishing with the outfall/point of disposal. Use additional lines for individual discharge types if necessary.

Questions or comments concerning this form may be directed to the Water Quality Division’s Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

Example 1: Industrial Wastewater TPDES Application (ENGLISH)

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

ABC Corporation (CN600000000) operates the Starr Power Station (RN10000000000), a two-unit gas-fired electric generating facility. Unit 1 has a generating capacity of 393 megawatts (MWs) and Unit 2 has a generating capacity of 528 MWs. The facility is located at 1356 Starr Street, near the City of Austin, Travis County, Texas 78753.

This application is for a renewal to discharge 870,000,000 gallons per day of once through cooling water, auxiliary cooling water, and also authorizes the following waste streams monitored inside the facility (internal outfalls) before it is mixed with the other wastewaters authorized for discharge via main Outfall 001, referred to as "previously monitored effluents" (low-volume wastewater, metal-cleaning waste, and stormwater (from diked oil storage area yards and storm drains)) via Outfall 001. Low-volume waste sources, metal-cleaning waste, and stormwater drains on a continuous and flow-variable basis via internal Outfall 101.

The discharge of once through cooling water via Outfall 001 and low-volume waste and metal-cleaning waste via Outfall 101 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: free available chlorine, total residual chlorine, total suspended solids, oil and grease, total iron, total copper, and pH. Temperature is also expected from these discharges. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Cooling water and boiler make-up water are supplied by Lake Starr Reservoir. The City of Austin municipal water plant (CN600000000, PWS 00000) supplies the facility's potable water and serves as an alternate source of boiler make-up water. Water from the Lake Starr Reservoir is withdrawn at the intake structure and treated with sodium hypochlorite to prevent biofouling and sodium bromide as a chlorine enhancer to improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam.

Low-volume wastewater from blowdown of boiler Units 1 and 2 and metal-cleaning wastes receive no treatment prior to discharge via Outfall 101. Plant floor and equipment drains and stormwater runoff from diked oil storage areas, yards, and storm drains are routed through an oil and water separator prior to discharge via Outfall 101. Domestic wastewater, blowdown, and backwash water from the service water filter, clarifier, and sand filter are routed to the Starr Creek Domestic Sewage Treatment Plant, TPDES Permit No. WQ0010000001, for treatment and disposal. Metal-cleaning waste from equipment cleaning is generally disposed of off-site.

Example 2: Domestic Wastewater TPDES Renewal application

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.

The City of Texas (CN000000000) operates the City of Texas wastewater treatment plant (RN000000000), an activated sludge process plant operated in the complete mix mode. The facility is located at 123 Texas Street, near the City of More Texas, Texas County, Texas 71234.

This application is for a renewal to discharge at an annual average flow of 1,200,000 gallons per day of treated domestic wastewater via Outfalls 001 and 002.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), ammonia nitrogen (NH_3-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent and Domestic Worksheet 4.0 in the permit application package. Domestic wastewater is treated by an activated sludge process plant and the treatment units include a bar screen, a grit chamber, aeration basins, final clarifiers, sludge digesters, a belt filter press, chlorine contact chambers and a dechlorination chamber.

Example 3: Domestic Wastewater TPDES New Application

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.

The City of Texas (CN000000000) proposes to operate the City of Texas wastewater treatment plant (RN000000000), an activated sludge process plant operated in the extended aeration mode. The facility will be located at 123 Texas Street, in the City of More Texas, Texas County, Texas 71234.

This application is for a new application to discharge at a daily average flow of 200,000 gallons per day of treated domestic wastewater.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), ammonia nitrogen (NH_3-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent in the permit application package. Domestic wastewater will be treated by an activated sludge process plant and the treatment units will include a bar screen, a grit chamber, aeration basins, final clarifiers, sludge digesters, a belt filter press, chlorine contact chambers and a dechlorination chamber.

Example 4: Domestic Wastewater TLAP Renewal application

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.

The City of Texas (CN000000000) operates the City of Texas wastewater treatment plant (RN000000000), an activated sludge process plant operated in the complete mix mode. The facility is located at 123 Texas Street, near the City of More Texas, Texas County, Texas 71234.

This application is for a renewal to dispose a daily average flow not to exceed 76,500 gallons per day of treated domestic wastewater via public access subsurface drip irrigation system with a minimum area of 32 acres. This permit will not authorize a discharge of pollutants into water in the state.

Land application of domestic wastewater from the facility are expected to contain five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent in the permit application package. Domestic wastewater is treated by an activated sludge process plant and the treatment units include a bar screen, an equalization basin, an aeration basin, a final clarifier, an aerobic sludge digester, tertiary filters, and a chlorine contact chamber. In addition, the facility includes a temporary storage that equals to at least three days of the daily average flow.

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.

Due to the industrial area where the facility is located no significant public interest is expected or has been developed for similar projects.

Project is located west of Houston in Chambers county a heavy industrial area an outside of the greater Houston area.

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)

FRAC VIII - UNDER CONSTRUCTION

FRAC VI - EXISTING

OUTFALL 001

UNNAMED DITCH

1-MILE DOWNSTREAM OF OUTFALL 001

SEGMENT 0901

SEGMENT 0902

3-MILES DOWNSTREAM OF OUTFALL 001

Legend

- Outfall 001
- 1-mile Downstream of Outfall 001
- 3-miles Downstream of Outfall 001
- Discharge Route
- Detention Pond
- 1-mile Radius
- Facility Boundary

0 2,000 4,000 8,000 Feet

N

Document Path: G:\Energy Transfer TPDES\MXD\OG_USGS.mxd

Energy Transfer GC NGL Fractionators LLC

Original USGS Map

Prepared by/Date: EC 06-14-2025	TETRA TECH
Checked by/Date: EC 06-14-2025	Attachment 4
Project Number: 212C-HN-03455	

N

2
1
1
1
1
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7
8

Legend

- Outfall
- Discharge Route
- Detention Pond
- Adjacent Landowners
- Facility Boundary

0 1,000 2,000 4,000 Feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, C

Document Path: G:\Energy Transfer TPDES\MXD\adjacent_landowners.mxd

Energy Transfer GC NGL Fractionators LLC

Adjacent Landowners

Prepared by/Date: EC 06-14-2025	TETRA TECH	Attachment 5
Checked by/Date: EC 06-14-2025		
Project Number: 212C-HN-03455		

Attachment AR-6

Adjacent Landowners Map
Energy Transfer GC NGL Fractionators LLC
Baytown, Chambers County, TX

MAP ID	OWNER NAME	ADDRESS	CITY	STATE	ZIP
1	Lone Star NGL Fractionators LLC	1300 Main St	Houston	TX	77002
2	Mont Belvieu Caverns, LLC	PO Box 4018	Houston	TX	77210-4018
3	Lone Star NGL Mont Belvieu LP	1300 Main St	Houston	TX	77002
4	Equistar Chemicals LP	16410 N Eldridge Pkwy	Tomball	TX	77377
5	Dow Hydrocarbons & Resources LLC	Tax Dept, APB Bldg., Floor 4A	Lake Jackson	TX	77566
6	Targa Downstream LLC c/o Andrews & Company	1900 Dalrock Road	Rowlett	TX	75088
7	Occidental Chemical Corp	0 SJOLANDER (OFF) Rd	Pickens	TX	74752
8	Chevron Phillips Chemical Co LP	9200 East Fwy	Baytown	TX	77521
9	Lone Star NGL Mont Belvieu LP	0 Pine Lake Ln	Baytown	TX	77521
10	Joseph R. Zorn	9202 Westview Circle	Dallas	TX	75231-2502

Note: Data source is Chambers County Appraisal District digital parcel data and associated tax roll database. (IDs 1 to 6).
Data Source is Harris County Appraisal District database. (IDs 7 to 9).

Energy Transfer GC NGL
Fractionators LLC
1300 Main St
Houston TX 77002

Mont Belvieu Caverns LLC
PO Box 4018
Houston TX 77210-4018

Lone Star NGL Mont Belvieu LP
1300 Main St
Houston TX 77002

Equistar Chemicals LP
16410 N Eldridge Pkwy
Tomball TX 77377

Dow Hydrocarbons & Resources
LLC
Tax Dept, APB Bldg., Floor 4A
Lake Jackson TX 77566

Targa Downstream LLC c/o
Andrews & Company
1900 Dalrock Road
Rowlett TX 75088

Occidental Chemical Corp
0 SJOLANDER (OFF) Rd
Pickens TX 74752

Chevron Phillips Chemical Co LP
9200 East Fwy
Baytown TX 77521

Lone Star NGL Mont Belvieu LP
0 Pine Lake Ln
Baytown TX 77521

Joseph R. Zorn
9202 Westview Circle
Dallas TX 75231-2502

Original Photographs

Photo 1 – From Outfall 001 looking northeast

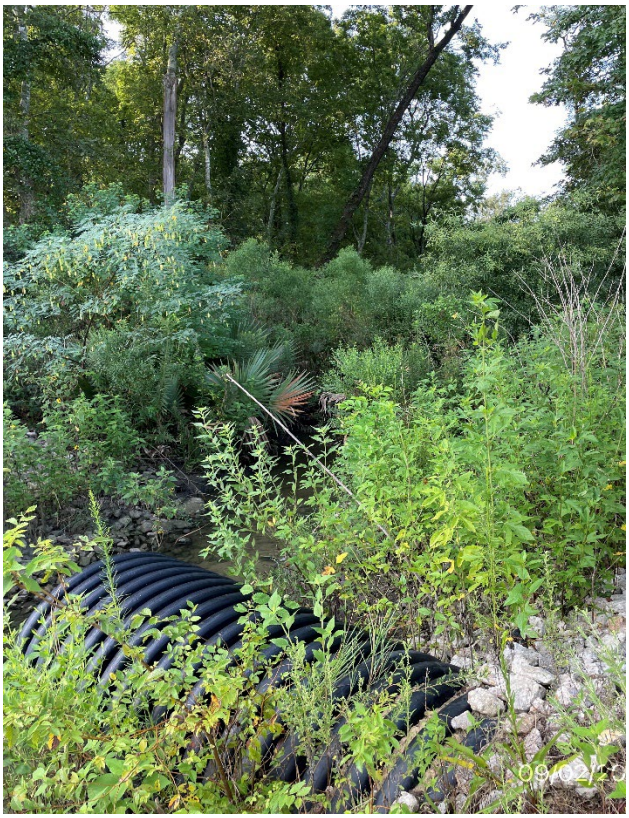


Photo 2 – From Outfall 001 looking southwest

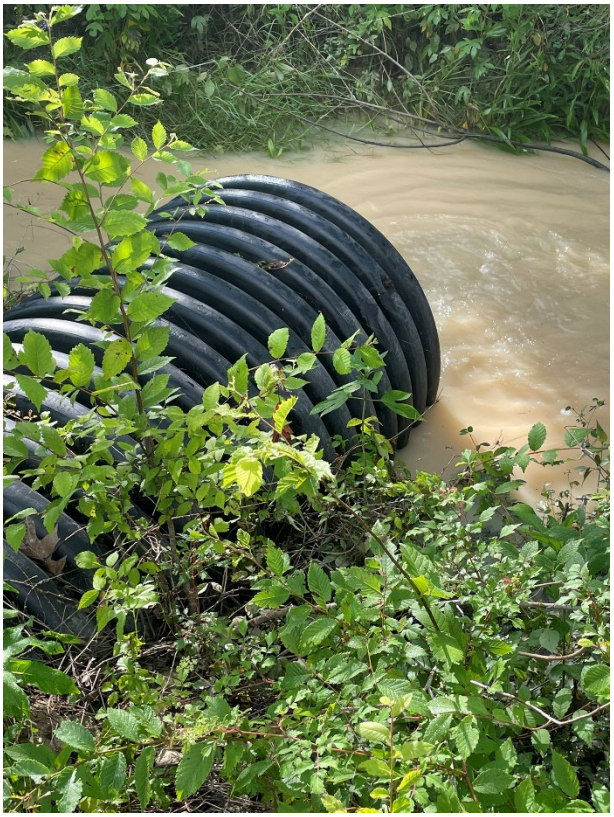


Photo 3 – Outfall 001

Photo 4 – Pond exit pipe to Outfall 001 and pH/Temperature meter

Photo 5 – Outfall 001 Sampling point

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ____Minor Amendment ____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

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

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

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

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

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

The following applies to all applications:

1. Permittee: Energy Transfer GC NGL Fractionators LLC

   Permit No. WQ00 05350000 EPA ID No. TX 0134068

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

   From I-10 East Exit TX 146 North go 2.5 miles turn left onto FM-1942 go approx. 2.2 miles turn left onto an unnamed road go 0.3 miles site is to the right.

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

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

First and Last Name: Cynthia M. Sexton

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

Title: Associate-Environmental Specialist

Mailing Address: 12353 Eagle Pointe Drive

City, State, Zip Code: Mont Belvieu, TX 77523

Phone No.: 281-576-3616 Ext.: Click here to enter text Fax No.: Click here to enter text

E-mail Address: Cynthia.sexton@energytransfer.com

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

N/A

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

Discharge from outfall 001 fall into an unnamed ditch that flows south/southwest for about one-mile until it reaches Cedar Bayou segment 0902. Route is composed of ditches, culverts and underground piping in some areas.

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

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

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

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

☐ Disturbance of vegetation or wetlands

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

N/A

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

The site is already developed.

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

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

Frac VI was finished in 2019 and Frac VIII was finished in 2023.

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

Frac VI and Frac VIII are one of the new additions of a series of fractionators Energy Transfer GC NGL Fractionators have in the area. Property was sold in 2007 to Lone Star NGL Mont Belview LP that in 2018 sold the property to Energy Transfer GC NGL Fractionators LLC. The builder was S & B Engineers.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

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

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

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

Energy Transfer GC NGL Fractionators LLC operates an existing Natural Gas processing plant that fractionates Y-grade natural gas liquids into ethane, propane, butane, and natural gasoline. The process uses a low vapor pressure heating medium and cooling is provided using Wet Surface Air Cooling (WSAC) technology. The feedstock and products of the facility are stored in off-site salt dome caverns and transported to and from the facility via pipelines, eliminating the need for on-site feedstock or product storage. The facility currently includes Fractionator VI & VIII which are currently permitted for wastewater discharges. This permit application amendment seeks to remove the WET analysis requirement. We have not failed any WET test since obtaining this permit. WET tests have been carried out from EPA NPDES original permit, but Fracs VI/VIII has been complying with them and understand that they are not necessary due to the type of operation at the site. There will be no other changes to this permit. The fractionators discharge throughout the same outfall, Outfall 001. The facility is approximately 0.25 miles south of FM 1942 and 0.75 miles east of Cedar Bayou, in Chambers County, Texas. Applicable SIC Code is 1321.

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

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

The existing facility (Frac VI & VIII) generates non-contact cooling water (blowdown water from WSAC units) as well as Reverse Osmosis reject water, fan fin cleaning water, fire system testing water, emergency showers water, hydrostatic test water from new piping and tanks, if new equipment/tanks need to be installed and non-contact stormwater. The discharge will first go to the detention pond where it will be treated for pH control and then discharged throughout Outfall 001.

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

Materials List

Raw Materials	Intermediate Products	Final Products
Natural Gas Liquids		Ethane
		Propane
		Butane
		Natural Gasoline

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: TR-1

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: FIRM Map, Chambers County, TX, Panel 160 of 175, Map Number 48071C0160F, Map Revised 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: Elevation is 29.3 at the northern part and 27.7 at the southern part of the property. The detention pond is designed for a 100-yr peak flow and serves as the protective measure designed to control flooding.

Attachment: TR-2

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

☐ Yes ☒ No ☐ N/A (renewal only)

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

☐ Yes ☐ No

If **yes**, provide the permit number: Click to enter text.

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

Item 2. Treatment System (Instructions, Page 40)

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

Energy Transfer GC NGL Fractionators LLC utilizes water from the Coastal Water Authority (CWA) canal to supply water to various units. The water undergoes initial clarification and disinfection when brought into the facility. A reverse osmosis (RO) unit is also used to treat this water prior to utilization in the amine systems associated with Frac VI & Frac VIII. The combined flow from the Frac VI and Frac VIII RO systems will be approximately 340 gpm (489,600 gal/day) of RO concentrate discharged to the WSAC blowdown stream. WSAC blowdown, along with RO reject water, gravity flows to the on-site detention pond prior to discharge through permitted Outfall 001. Anti-Foaming agents is/will be added on an as needed basis, to the cooling water discharges from the existing Frac VI & Frac VIII to prevent the discharge of foam from Outfall 001. Carbon dioxide is added to the cooling water discharges from the existing Frac VI and Frac VIII for pH adjustment. ChemTreat CL427 will be added to the cooling water discharges from the existing Frac VI and Frac VIII to remove the chlorine.

pH Control

- At the pond inlet, one 2000L carbon dioxide storage tanks that supply carbon dioxide to spargers. The spargers are installed in the manholes on the rainwater drain lines into the pond (one per frac). These units are manually controlled.

- At the pond outlet, we are installing a 6-ton carbon dioxide storage tank, vaporizer, vapor heater, and pH control skid that will take liquid carbon dioxide, vaporize it, mix it with water from the pond in a static mixer, and inject the solution back into the pond through a diffuser. CO2 supply to the static mixer will be automatically controlled using a pH probe reading from the pond.

Residual Chloride Control

- Two 250-gallon tanks of 10-30% sodium bisulfite solution with injection pumps are installed to treat the RO/WSAC blowdowns that discharges directly to the pond.

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: TR-3

Item 3. Impoundments (Instructions, Page 40)

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

☒ Yes ☐ No

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

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

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

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

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

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

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

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

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

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

Impoundment Information

Parameter	Pond # 1	Pond #	Pond #	Pond #
Use Designation: (T) (D) (C) or (E)	D			
Associated Outfall Number	001			
Liner Type (C) (I) (S) or (A)	I			
Alt. Liner Attachment Reference	N/A			
Leak Detection System, Y/N	N			
Groundwater Monitoring Wells, Y/N	N			
Groundwater Monitoring Data Attachment	N/A			
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	N			
Length (ft) Irregular shape – Longest side	Approx. 615			
Width (ft) Irregular shape – Longest width	Approx. 410			
Max Depth From Water Surface (ft), Not Including Freeboard	4			
Freeboard (ft)	2			
Surface Area (acres)	5			
Storage Capacity (gallons)	7,168,722			
40 CFR Part 257, Subpart D, Y/N	N			
Date of Construction	2019			

Attachment: Click to enter text.

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

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

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: Click to enter text.

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

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

Attachment: Click to enter text.

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

Attachment: Click to enter text.

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

Attachment: Click to enter text.

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

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

If there are more outfalls/points of disposal at the facility than the spaces provided, copies of pages 6 and/0r numbered accordingly (i.e., page 6a, 6b, etc.) may be used to provide information on the additional outfalls.

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

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	29.844887	-94.926993

Outfall Location Description

Outfall No.	Location Description
001	Southeast of Frac VI. Discharge to an existing drainage ditch.

Outfall No.	Location Description

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

Outfall No.	Description of sampling point
001	The sampling point is located approximately 385 ft west of Outfall 001.
	Latitude 29.844764, Longitude -94.927598

Outfall Flow Information – Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
001	Variable	Variable	Variable	Variable	Currently Discharging

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	N	Y	Ultrasonic Flow Meter

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	28-31	12

Outfall Wastestream Contributions

Outfall No. **001**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Hydrostatic Test Water	Variable	0.01
Surface Air Cooler Blowdown	0.4608	36.11
Reverse Osmosis Reject Water	0.4896	38.36
Fire system testing and blowdown	Variable	0.01

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Emergency Showers	Variable	0.01
Fan cleaning water	Variable	0.01
Stormwater	Variable	25.35
Public Water System flush water	Variable	0.01
Air Dryer Condensate	0.0016704	0.13
Calculations based in a 1.276 MGD discharge		

Outfall No. Click to enter text.

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow

Outfall No. Click to enter text.

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow

Attachment: Click to enter text.

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

a. Indicate if the facility currently or proposes to:

☒ Yes ☐ No Use cooling towers that discharge blowdown or other wastestreams

☐ Yes ☒ No Use boilers that discharge blowdown or other wastestreams

☐ Yes ☒ No Discharge once-through cooling water

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

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

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

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

Attachment: TR-4

c. Cooling Towers and Boilers

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

Cooling Towers and Boilers

Type of Unit	Number of Units	Daily Avg Blowdown (gallons/day)	Daily Max Blowdown (gallons/day)
Cooling Towers	2	320	320
Boilers	NA		

Item 6. Stormwater Management (Instructions, Page 44)

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

☒ Yes ☐ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in a manner which may result in exposure of the activities or materials to stormwater: During wet weather events, non-contact stormwater run-off from impervious areas, such as rooftops and pavement, as well as from on-site vegetated areas will flow into the stormwater detention pond. The runoff volume into the detention pond will be dependent on rainfall intensity, duration, and frequency. There is oil-filled equipment, oil tanks, emergency generators and chemical tanks exposed to rainwater.

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

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

a. Check the box next to the appropriate method of domestic sewage and domestic sewage sludge treatment or disposal. Complete Worksheet 5.0 or Item 7.b if directed to do so.

☒ Domestic sewage is routed (i.e., connected to or transported to) to a WWTP permitted to receive domestic sewage for treatment, disposal, or both. Complete Item 7.b.

☐ Domestic sewage disposed of by an on-site septic tank and drainfield system. Complete Item 7.b.

☐ Domestic and industrial treatment sludge ARE commingled prior to use or disposal.

☐ Industrial wastewater and domestic sewage are treated separately, and the respective sludge IS NOT commingled prior to sludge use or disposal. Complete Worksheet 5.0.

☐ Facility is a POTW. Complete Worksheet 5.0.

☐ Domestic sewage is not generated on-site.

☐ Other (e.g., portable toilets), specify and Complete Item 7.b: 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.
Domestic sewage treatment and disposal is provided by an aerobic on-site sewage facility (OSSF).	SETC-20521-2019

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

a. Is the permittee currently required to meet any implementation schedule for compliance or enforcement?

☐ Yes ☒ No

b. Has the permittee completed or planned for any improvements or construction projects?

☐ Yes ☒ No

c. If **yes** to either 8.a **or** 8.b, provide a brief summary of the requirements and a status update: Click to enter text.

Item 9. Toxicity Testing (Instructions, Page 45)

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

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: *Whole Effluent Toxicity Testing (7-day Chronic Freshwater) for Ceriodapania dubia and Pimephales promelas*

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

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

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

☐ Yes ☒ No

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

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

b. Attach the following information to the application:

- List of wastes received (including volumes, characterization, and capability with on-site wastes).
- Identify the sources of wastes received (including the legal name and addresses of the generators).
- Description of the relationship of waste source(s) with the facility's activities.

Attachment: Click to enter text.

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

☐ Yes ☐ No

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

Attachment: Click to enter text.

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

☐ Yes ☐ No

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

Item 11. Radioactive Materials (Instructions, Page 46)

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

☐ Yes ☒ No

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

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material Name	Concentration (pCi/L)

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

☐ Yes ☒ No

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

Radioactive Materials Present in the Discharge

Radioactive Material Name	Concentration (pCi/L)

Item 12. Cooling Water (Instructions, Page 46)

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

☒ Yes

☐ No

☐ Decommissioned: Click to enter text.

☐ To Be Decommissioned: Click to enter text.

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

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

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

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

☐ Yes ☒ No

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

c. Cooling Water Supplier

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

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

CWIS ID				
Owner	Energy Transfer GC NGL Fractionators, LLC			
Operator	Energy Transfer GC NGL Fractionators, LLC			

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

☐ No ☒ Yes; PWS No.: TX1010013

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

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

☒ No ☐ Yes; Auth No.: Click to enter text.

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

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

☒ No ☐ Yes; AIF: Click to enter text.

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

d. 316(b) General Criteria

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

☐ Yes ☒ No. Explanation: Water is coming for and artificial canal running about 1.4-miles northwest of the facility. The canal goes from the Trinity River to the Lynchburg Reservoir.

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

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

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

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

☒ Yes ☐ No

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

f. Oil and Gas Exploration and Production

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

☐ Yes ☒ No

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

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

☐ Yes ☐ No

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

g. Compliance Phase and Track Selection

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

☐ Yes ☒ No

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

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

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

☐ Track I – AIF greater than 10 MGD

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

☐ Track II

- Attach information required by *40 CFR § 125.86(c)*.

Attachment: Click to enter text.

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

☐ Track I – Fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – Not a fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except CWIS latitude/longitude under Item 2.a).

☐ Track II – Fixed facility

- Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: Click to enter text.

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

This item is only applicable to existing permitted facilities.

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

☒ Yes ☐ No

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

We are requesting to remove the WET testing requirement. We have not failed any WET test since obtaining this permit. If eliminating the WET testing is not possible we request the frequency of testing be changed to once a year instead of quarterly testing.

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

☐ Yes ☒ No

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

Click to enter text.

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

☐ Yes ☒ No

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

Click to enter text.

Item 14. Laboratory Accreditation (Instructions, Page 49)

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

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

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

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

CERTIFICATION:

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

Printed Name: Brad Widener

Title: Vice-President of Operations

Signature: _____

Date: _____

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

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

Item 1. Categorical Industries (Instructions, Page 53)

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

☐ Yes ☒ No

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

40 CFR Effluent Guideline

Industry	40 CFR Part

Item 2. Production/Process Data (Instructions, Page 54)

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

a. Production Data

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

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units

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

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

Percentage of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

Click to enter text.

Item 3. Process/Non-Process Wastewater Flows (Instructions, Page 54)

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

Click to enter text.

Item 4. New Source Determination (Instructions, Page 54)

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

Wastewater Generating Processes Subject to Effluent Guidelines

Process	EPA Guideline Part	EPA Guideline Subpart	Date Process/ Construction Commenced

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

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

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

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 6/25/2025-7/16/2025

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

c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm. **Attachment:** TR-5

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

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** Click to enter text.

TABLE 1 and TABLE 2 (Instructions, Page 58)

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

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

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	2.76	4.99	3.80	2.46
CBOD (5-day)	2.45	4.76	3.77	2.28
Chemical oxygen demand	79.0	112	48.0	88.0
Total organic carbon	31.3	36.2	13.9	28.0
Dissolved oxygen – Grab (Field)	2.6	0.27	1.00	1.26
Ammonia nitrogen	0.272	0.154	0.172	0.225
Total suspended solids	2.2	3.40	3.40	3.20
Nitrate nitrogen	0.156	0.04	0.547	<0.01
Total organic nitrogen	1.43	2.03	0.794	1.96
Total phosphorus	0.356	0.419	0.226	0.508
Oil and grease - Grab	<1.51	<1.61	<1.65	<1.57
Total residual chlorine - Grab (Field)	0.000	0.000	0.000	0.000

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total dissolved solids	1,330	1,380	592	1,280
Sulfate	527	546	178	564
Chloride	207	243	102	287
Fluoride	1.54	1.63	0.507	1.07
Total alkalinity (mg/L as CaCO3)	236	234	104	248
Temperature (°F) - Grab (Field)	81.1	84.9	81.2	83.4
pH (standard units) - Grab (Field)	7.90	8.01	7.25	7.61

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

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	51.6	26.6	63	26.5	2.5
Antimony, total	0.76	0.53	1.06	0.56	5
Arsenic, total	6.44	7.53	3.44	6.24	0.5
Barium, total	274	240	108	263	3
Beryllium, total	<0.06	<0.06	<0.06	<0.06	0.5
Cadmium, total	<0.03	<0.03	0.13	<0.03	1
Chromium, total	1.4	1.24	2.10	1.63	3
Chromium, hexavalent	<0.5	<0.5	<0.5	0.7	3
Chromium, trivalent	1.4	1.24	1.8	1.63	N/A
Copper, total	1.34	1.70	1.94	0.96	2
Cyanide, available - Grab	<0.69	1.80	0.80	0.00150	2/10
Lead, total	0.18	0.11	0.35	0.07	0.5
Mercury, total	0.0014	0.00132	0.00321	0.00134	0.005/0.0005
Nickel, total	6.76	5.55	2.31	4.14	2
Selenium, total	1.17	1.58	0.62	0.75	5
Silver, total	<0.13	<0.13	<0.00013	<0.13	0.5
Thallium, total	<0.06	<0.06	<0.06	<0.06	0.5
Zinc, total	60.7	60.9	61.7	33.1	5.0

TABLE 3 (Instructions, Page 58)

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

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

Table 3 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile					50
Anthracene					10
Benzene	<1	1.06	<1	<1	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	<1	<1	<1	<1	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1-Dichloroethene [1,1-Dichloroethylene]					10
Dichloromethane [Methylene chloride]					20
1,2-Dichloropropane					10
1,3-Dichloropropene [1,3-Dichloropropylene]					10
2,4-Dimethylphenol					10
Di-n-Butyl phthalate					10
Epichlorohydrin (1-Chloro-2,3-epoxypropane)					---
Ethylbenzene					10
Ethylene Glycol					---
Fluoride					500
Hexachlorobenzene					5
Hexachlorobutadiene					10
Hexachlorocyclopentadiene					10
Hexachloroethane					20
4,4'-Isopropylidenediphenol (bisphenol A)					1
Methyl ethyl ketone					50
Methyl tert-butyl ether (MTBE)					---
Nitrobenzene	<0.91	<4.6	<0.92	<0.91	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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Toluene	<1	<1	<1	8.09	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)**

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

c. E. coli (discharge to freshwater)

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

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

TABLE 5 (Instructions, Page 59)

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

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

☒ N/A

Table 5 for Outfall No.: Click to enter text. **Samples are (check one): ☐ Composite ☐ Grab**

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

Pollutant	**Sample 1 (µg/L)***	**Sample 2 (µg/L)***	**Sample 3 (µg/L)***	**Sample 4 (µg/L)***	**MAL (µg/L)***
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.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒					400
Color (PCU)	☐	☒					—
Nitrate-Nitrite (as N)	☐	☒					—
Sulfide (as S)	☐	☒					—
Sulfite (as SO3)	☐	☒					—
Surfactants	☐	☒					—
Boron, total	☐	☒					20
Cobalt, total	☐	☒					0.3
Iron, total	☒	☐	0.106	0.106	0.0920	0.0880	7
Magnesium, total	☒	☐	19.2	24.6	7.57	21.7	20
Manganese, total	☒	☐	0.100	0.12	0.0327	0.159	0.5
Molybdenum, total	☐	☒					1
Tin, total	☒	☐	0.206	0.223	0.08	0.163	5
Titanium, total	☒	☐	0.002	0.001	0.004	0.001	30

TABLE 7 (Instructions, Page 60)

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

☒ N/A

Table 7 for Applicable Industrial Categories

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

* Test if believed present.

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

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

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

Table 8 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

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

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
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.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene					10
Acenaphthylene					10
Anthracene					10
Benzidine					50
Benzo(a)anthracene					5
Benzo(a)pyrene					5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]					10
Benzo(ghi)perylene					20
Benzo(k)fluoranthene					5
Bis(2-chloroethoxy)methane					10

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

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

* Indicate units if different from µg/L.

Table 11 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin					0.01
alpha-BHC [alpha-Hexachlorocyclohexane]					0.05
beta-BHC [beta-Hexachlorocyclohexane]					0.05
gamma-BHC [gamma-Hexachlorocyclohexane]					0.05
delta-BHC [delta-Hexachlorocyclohexane]					0.05
Chlordane					0.2
4,4'-DDT					0.02
4,4'-DDE					0.1
4,4'-DDD					0.1
Dieldrin					0.02
Endosulfan I (alpha)					0.01
Endosulfan II (beta)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Endrin aldehyde					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
PCB 1242					0.2
PCB 1254					0.2
PCB 1221					0.2
PCB 1232					0.2
PCB 1248					0.2

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

* Indicate units if different from µg/L.

Attachment: Click to enter text.

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

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

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

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

Description: Click to enter text.

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

☐ Yes ☒ No

Description: Click to enter text.

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

Table 12 for Outfall No.: N/A **Samples are (check one):** ☐ **Composite** ☐ **Grab**

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

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

TABLE 13 (HAZARDOUS SUBSTANCES)

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

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

☒ Yes ☐ No

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

☐ Yes ☒ No

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

Table 13 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Phenol, Total - Grab	108-95-2	<4.5	<4.5	<4.5	<4.5	

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

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

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

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

☐ Yes ☒ No

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

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

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

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

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

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

a. Width of the receiving water at the outfall: Click to enter text. 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.

Item 3. Classified Segment (Instructions, Page 80)

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

☐ Yes ☒ No

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

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

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: Click to enter text.

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:

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: None.

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: Click to enter text.

f. General observations of the water body during normal dry weather conditions: At the ditch usually is running water from other facilities before it meets with Frac VI & VIII discharge where the flow increases going south to Cedar Bayou.

Date and time of observation: 6/13/2025

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

☒ Yes ☐ No

If **yes**, describe how: It was raining before the visit, during the visit and after the visit.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

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

☐ oil field activities
☐ agricultural runoff
☒ upstream discharges
☐ urban runoff
☐ septic tanks
☐ other, specify: Click to enter text.

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:Support of forests

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

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

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

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

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 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.

Item 1. Applicability (Instructions, Page 89)

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.

Item 2. Stormwater Coverage (Instructions, Page 89)

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	Authorization under MSGP	Authorized Under Individual Permit
001	☐	☒
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

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

Item 3. Site Map (Instructions, Page 90)

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 above information was provided on the facility site map(s).

Attachment: TR-6

Item 4. Facility/Site Information (Instructions, Page 90)

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)
001	15.8 acres	49.6 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): 7.44

25-year, 24-hour rainfall (inches): 12.3

Source: NOAA precipitation frequency estimates for the 25-year, 24-hour and from the US Climate Data 2021 for the remaining information.

c. Attach an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation. **Attachment:** TR-7

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:** TR-7

e. Describe any BMPs and controls the facility uses/proposes to prevent or effectively reduce pollution in stormwater discharges from the facility: TR-7

Item 5. Pollutant Analysis (Instructions, Page 91)

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): NA

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 14 for Outfall No.: NA

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)	(max)	—	(min)	—		—
Total suspended solids						—
Chemical oxygen demand						—
Total organic carbon						—
Oil and grease						—
Arsenic, total						0.0005
Barium, total						0.003
Cadmium, total						0.001
Chromium, total						0.003
Chromium, trivalent						—
Chromium, hexavalent						0.003
Copper, total						0.002

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)
Lead, total						0.0005
Mercury, total						0.000005
Nickel, total						0.002
Selenium, total						0.005
Silver, total						0.0005
Zinc, total						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 15 for Outfall No.: NA

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

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Attachment: Click to enter text.

Item 6. Storm Event Data (Instructions, Page 93)

Provide the following data for the storm event(s) which resulted in the maximum values for the analytical data submitted: All other dates of sampling there was no rain, except for the date shown here.

Date of storm event: 07/09/2025

Duration of storm event (minutes): 100

Total rainfall during storm event (inches): 0.28

Number of hours the between beginning of the storm measured and the end of the previous measurable storm event (hours): 16

Maximum flow rate during rain event (gallons/minute): 1,870

Total stormwater flow from rain event (gallons): 186,988

Provide a description of the method of flow measurement or estimate:

Rational Method:

Q = CiA

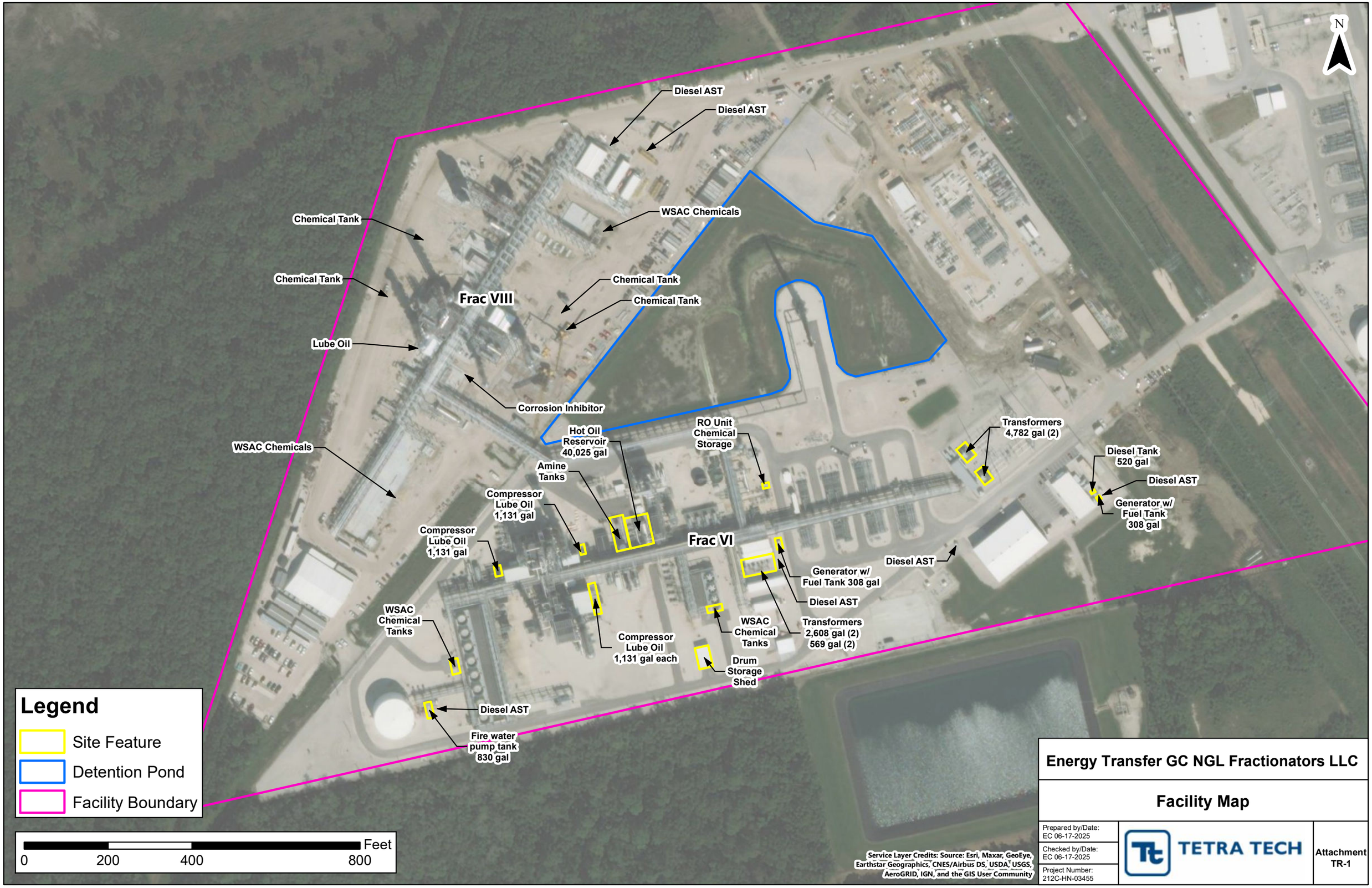
C (Rational runoff coefficient) (industrial area) = 0.5

Rainfall intensity, i (in/hr): (0.28 inch/100 min) (60 min/1 hr) = 0.168 inch/hr

Drainage Area, A (Acres): 49.6 acres

Peak Discharge, Q (gpm): (0.5)(0.168)(49.6)(7.48)(60) = 1,870 gallon/min

ATTACHMENT TR-1 – FACILITY MAP



Document Path: G:\Energy Transfer TPDES\MXD\Facility_Map.mxd

Energy Transfer GC NGL Fractionators LLC

Facility Map

Prepared by/Date: EC 06-17-2025	TETRA TECH	Attachment TR-1
Checked by/Date: EC 06-17-2025		
Project Number: 212C-HN-03455		

ATTACHMENT TR-2 – FLOOD MAP

National Flood Hazard Layer FIRMette

FEMA

94°56'9"W 29°51'2"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

94°55'32"W 29°50'30"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

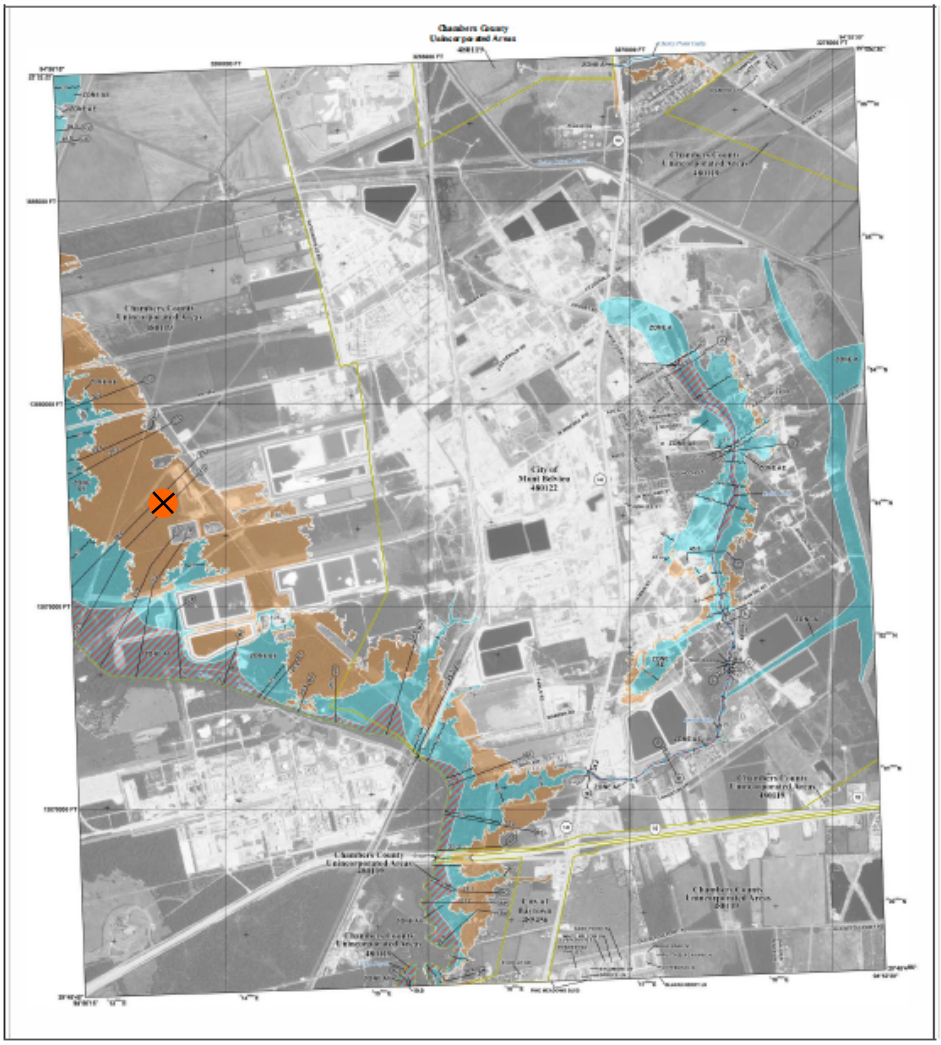
N

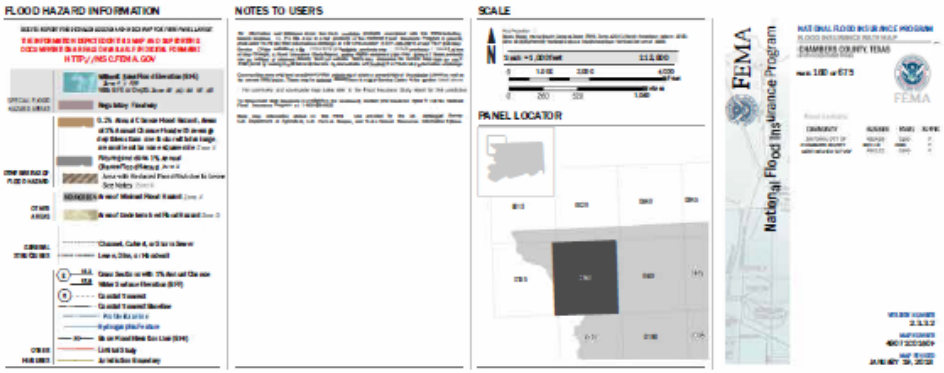
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/17/2025 at 1:03 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.





SITE

N
W E
S

0 1,000 2,000

Approximate Scale in Feet

SOURCE: USGS 7.5 MINUTE SERIES, RED BLUFF, NEW MEXICO AND SCREW BEAN DRAW NE, TEXAS, 2022.

FEMA Flood General Map
Fractionators 6 & 8
Chambers County, TEXAS

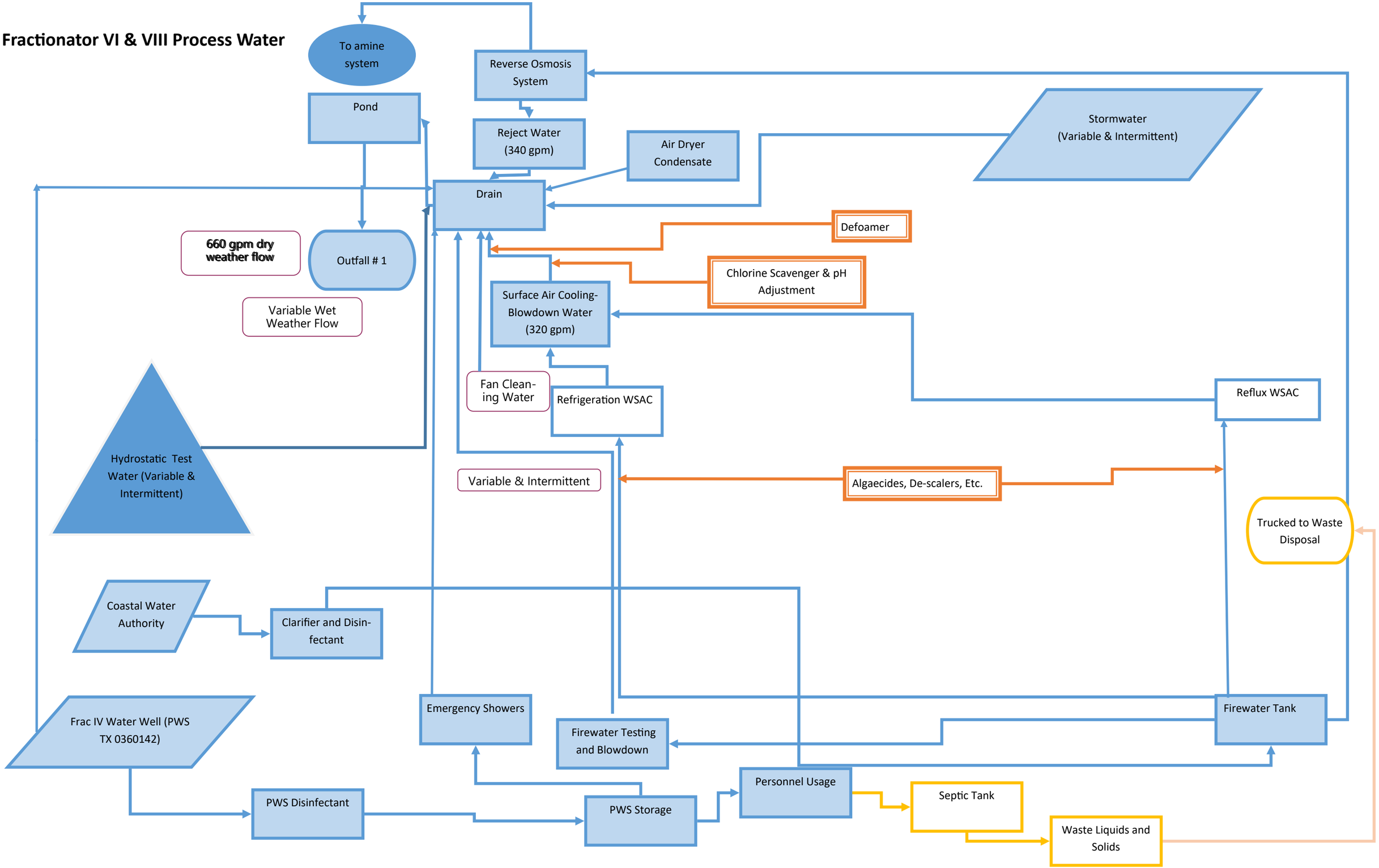
Project Number:
212C-HN-03455

TETRA TECH

Attachment
TR-2

ATTACHMENT TR-3 – WATER BALANCE & FLOW DIAGRAM

Fractionator VI & VIII Process Water



ATTACHMENT TR-4 – LIST OF WATER TREATMENT CHEMICALS

Attachment No. 10

List of chemicals and SDSs

Manufacturers Product ID	Product Use	CASRN/Chemical Composition			Product Classification	Active Ingredient half-life	Frequency of product use	Product Toxicity Data	Concentration in Waste stream
AC-455	Corrosion Inhibitor	7681-57-4	sodium metabisulphite	<20%	Non-persistent	Not Available	Continuously	No relevant information available	Very low
AC-777	Membrane anti-scalent inhibitor	20592-85-2	Phosphonic acid,P,P′,P″-[nitrilotris(methylene)]tris-, sodium salt	10-20%	Non-persistent	Not Available	Continuously	No relevant information available	Very low
		1310-58-3	Potassium hydroxide	<2%					
CL427	Dechlorinator	7722-84-1	Hydrogen Peroxide	10-30%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
CL456	Corrosion Inhibitor	Trade secret			Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
CL2030	Micro biocide and Algicide	5538-94-3	N, N-Dioctyl-N,N-dimethylammonium chloride	50%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		Proprietary solvent							
CL5430	Corrosion Inhibitor	2809-21-4	1-Hydroxyethylidene-1,1-diphosphoric acid	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		7664-38-2	Phosphoric Acid	7-13%					
		95-14-7	Benzotriazole	1-5%					
CL5570	Scale Inhibitor	64665-57-2	Tolyltriazole, sodium salt	1-5%	Non-persistent	Not Available	Continuously	Not determined	Very Low
		64-02-8	Ethylene diamine tetraacetic acid, tetrasodium salt	1-5%					
		1310-73-2	Sodium hydroxide	5-10%					
CL5640	Corrosion Inhibitor	37971-36-1	2−Phosphono−1,2,4−butane tricarboxylic acid	7-13%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
CL5644	Corrosion Inhibitor	77-92-9	Citric acid	5-10%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
FlexPro CL5737	Corrosion Inhibitor	77-92-9	Citric acid	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		7664-93-9	Sulfuric acid	1-5%					
DF20	Foam Control	Proprietary			Non-persistent	Not Available	Continuously	Not determined	Very Low
FFC1	Fin Cleaning Solution	1569-01-3	Propylene glycol n-Propyl Ether (PNP)	<20%	Non-persistent	Not Available	Continuously	Not determined	Very Low
FFCLC	Fin Cleaning Solution	1569-01-3	Propylene glycol n-Propyl Ether (PNP)	<20%	Non-persistent	Not Available	Continuously	Not determined	Very Low
FO120	Defoamer	68002-96-0	Alcohols, C16−18, Ethoxylated Propoxylated	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
FO180	Defoamer	Trade secret			Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
FO220	Defoamer	63148-62-9	Polydimethylsiloxane	10-40%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		64742-47-8	Petroleum distillate hydrotreated light	<10%					
		112926-00-8	Silicon dioxide	<5%					
P873L	Water Clarification Agent	Trade secret			Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
P893L	Water Clarification Agent	1327-41-9	Polyaluminum chloride	60-100%	Not Available	Not Available	Continuously	See Section 12 of product SDS	Very low
RL9075	Reverse Osmosis Treatment	22042-96-2	Diethylenetriamine penta methylene phosphonic acid, sodium salt	1-5%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
		7631-90-5	Sodium bisulfite	10-30%					
		37971-36-1	2−Phosphono−1,2,4−butane tricarboxylic acid	1-5%					
Carbon Dioxide	pH Control	124-38-9	Carbon Dioxide	100%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low
Sodium Bisulfite	Residual Chlorine Control	7631-90-5	Sodium Bisulfite	10-30%	Non-persistent	Not Available	Continuously	See Section 12 of product SDS	Very low

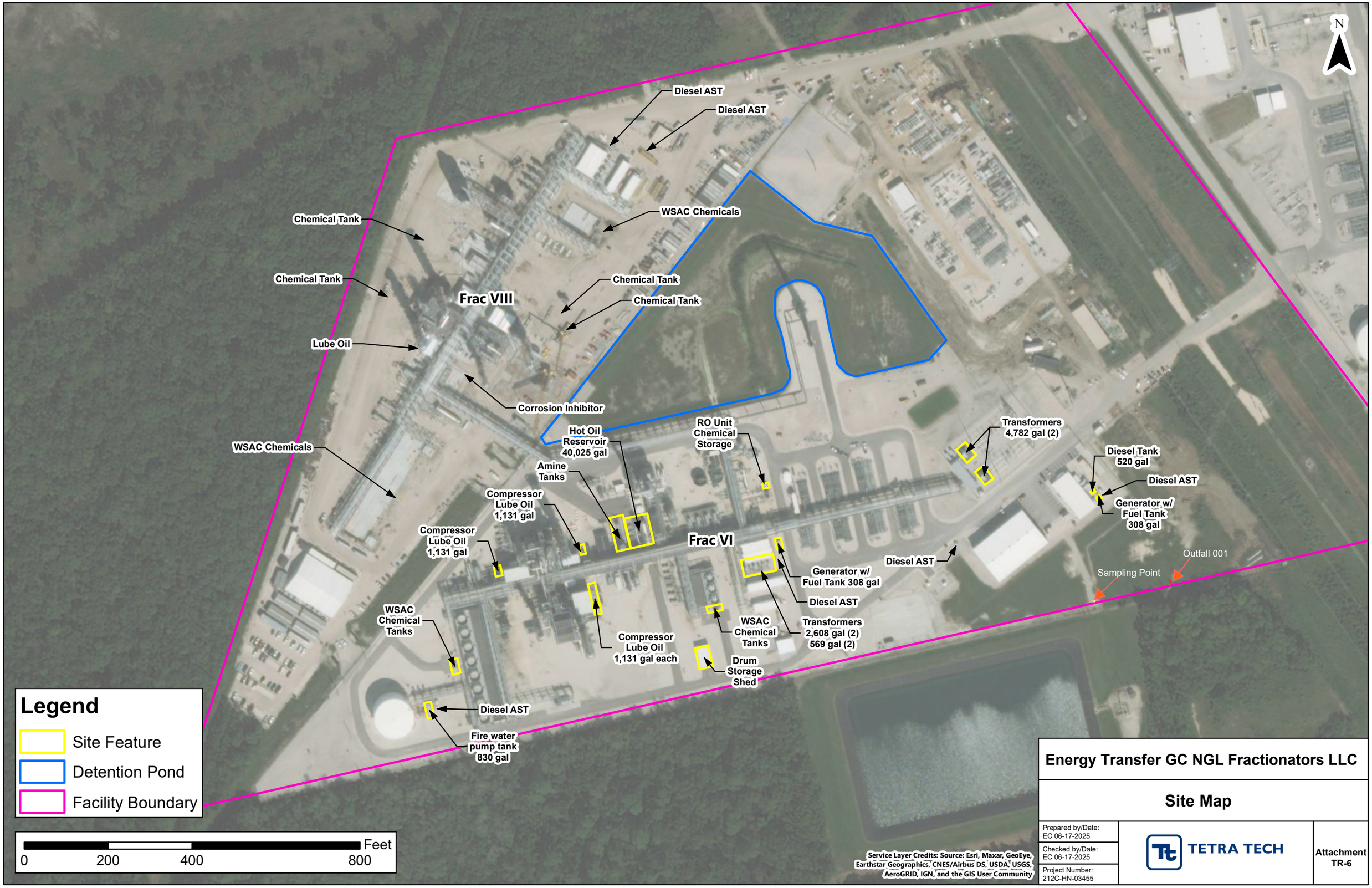
ATTACHMENT TR-5 – LABORATORY INFORMATION

Attachment No. TR-5 – Laboratory Information

Name: a & b Labs
Address: 10100 East Freeway, Suite 100, Houston, TX 77029
Tel: 713-453-6060, Fax: 713-453-6091
http://www.ablabs.com
Contact Name: Amanda Shute

Pollutants Analyzed by a & b Labs	
BOD (5-day)	Cadmium, total
CBOD (5-day)	Chromium, total
Chemical oxygen demand	Chromium, hexavalent
Total organic carbon	Chromium, trivalent
Dissolved oxygen	Copper, total
Ammonia nitrogen	Cyanide, available
Total suspended solids	Lead, total
Nitrate nitrogen	Mercury, total
Total organic nitrogen	Nickel, total
Total phosphorus	Selenium, total
Oil and grease	Silver, total
Total residual chlorine	Thallium, total
Total dissolved solids	Zinc, total
Sulfate	Benzene
Chloride	1,2-Dichloroethane
Fluoride	Nitrobenzene
Total alkalinity (mg/L as CaCO3)	Toluene
Temperature (°F)	Iron, total
pH (standard units)	Magnesium, total
Aluminum, total	Manganese, total
Antimony, total	Tin, total
Arsenic, total	Titanium, total
Barium, total	Phenols, total
Beryllium, total	

ATTACHMENT TR-6 – SITE MAP



Document Path: G:\Energy Transfer TPDES\MXD\Facility_Map.mxd

Energy Transfer GC NGL Fractionators LLC

Site Map

Prepared by/Date: EC 06-17-2025	TETRA TECH	Attachment TR-6
Checked by/Date: EC 06-17-2025		
Project Number: 212C-HN-03455		

ATTACHMENT TR-7 – INVENTORY OF EXPOSED MATERIALS

Attachment No. TR-7 – Inventory of Exposed Materials

Material	Area
Diesel Fuel	Inside aboveground tanks and generator subbase tanks around the facility
Mineral Oil	Inside electric transformers at the substation
Compressor Lube Oil	Inside tanks around the facility
Amine Tanks	Amine area
Hot Oil Reservoir	Amine area
Wet Surface Air Coolers Water Treatment Chemicals	WSAC areas
Reverse Osmosis Chemicals	Reverse Osmosis unit area

All these materials are stored in tanks and the majority of the tanks are inside secondary containment. Diesel fuel is used for emergency generators and fire water pump operation. Mineral oil is used for cooling the electric transformers. Amine and hot oil are used in the process and are tanks inside a closed loop. The compressor lubricating oil is also a closed loop operation and is the only material not inside secondary containment. This material is located in an area that discharges to the pond so if a release occurs, it will be retained in the pond until removed.

The WSAC and reverse osmosis chemicals tanks are inside plastic secondary containments that are drained or disposed with regularity.

The secondary containments and the pond are the BMPs used to prevent pollution in stormwater discharges.

See **Attachment TR-1 – Facility map** for the location of these materials.

No calculations.

N

Frac VIII

Photo 4

Unnamed Ditch

Frac VI

Photo 3

Photo 1

Photo 5

Photo 2

Legend

- Detention Pond
- Facility Boundary
- Photograph Direction
- Position of person taking photograph

0 200 400 800 Feet

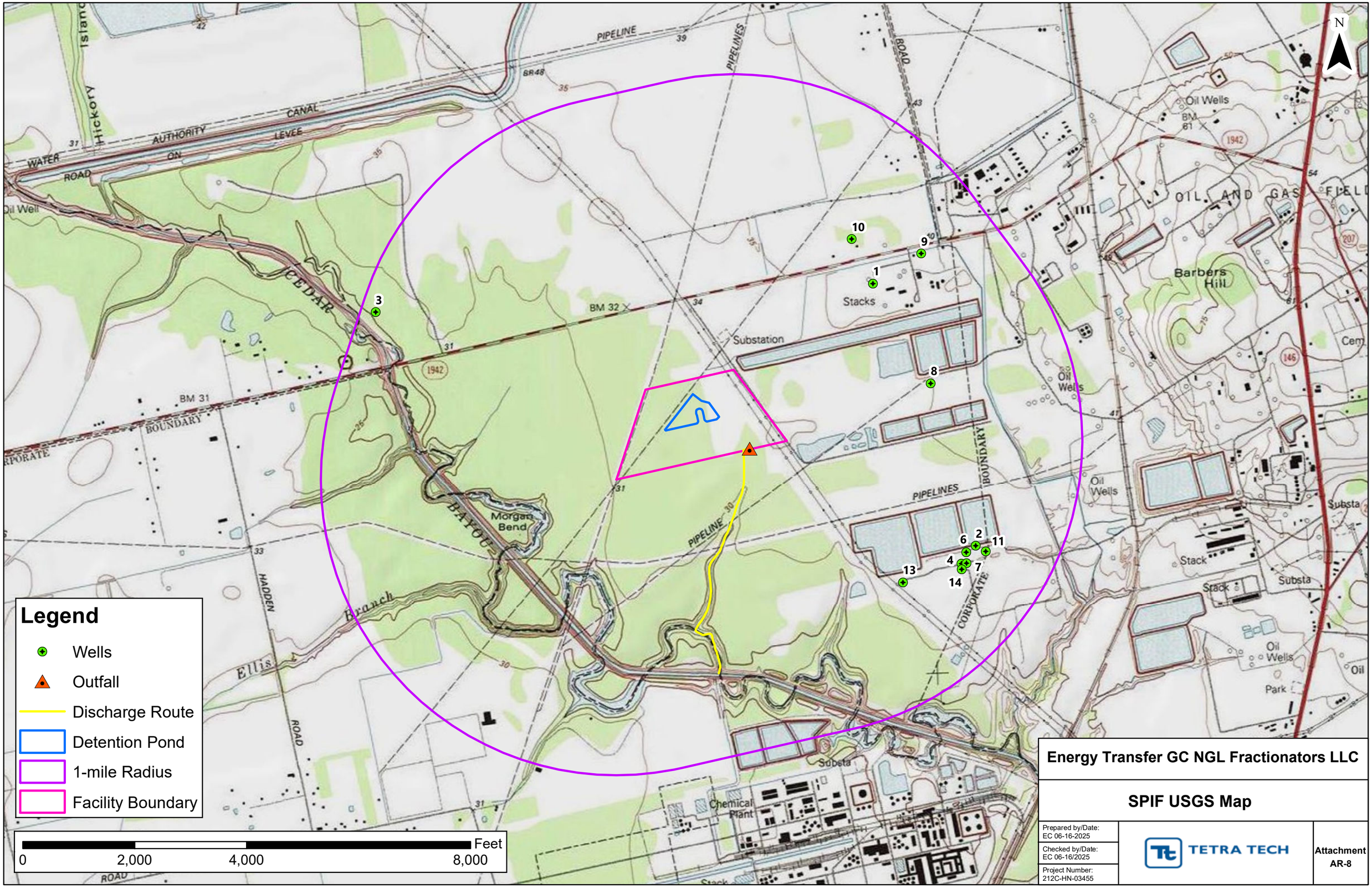
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Document Path: G:\Energy Transfer TPDES\MXD\photo_log_map.mxd

Energy Transfer GC NGL Fractionators LLC

Plot Plan showing the location and direction of each photograph

Prepared by/Date: EC 06-18-2025	TETRA TECH	Attachment AR-7
Checked by/Date: EC 06-18-2025		
Project Number: 212C-HN-03455		



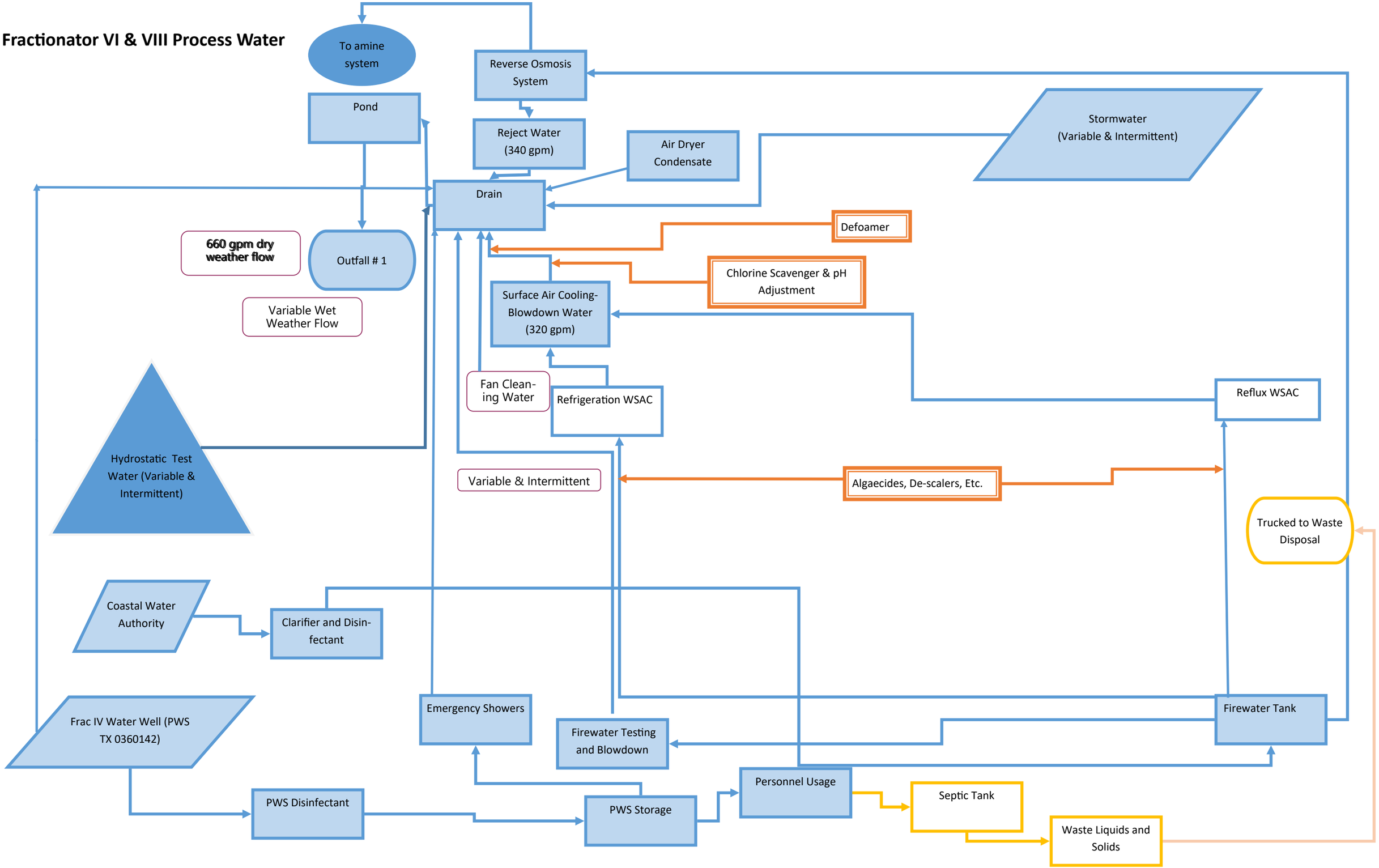
Document Path: G:\Energy Transfer TPDES\MXD\7_5min_USGS_map.mxd

Energy Transfer GC NGL Fractionators LLC

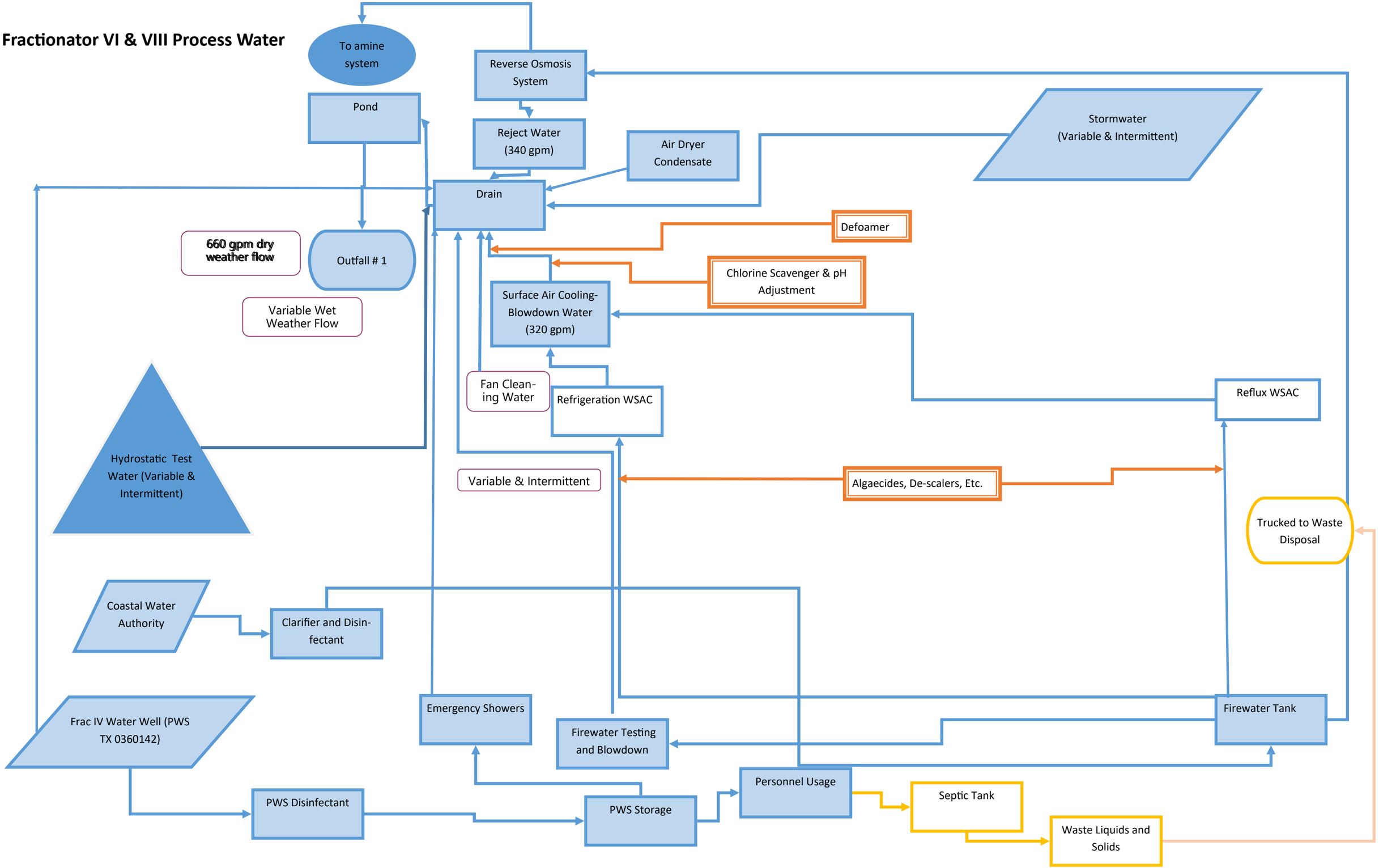
SPIF USGS Map

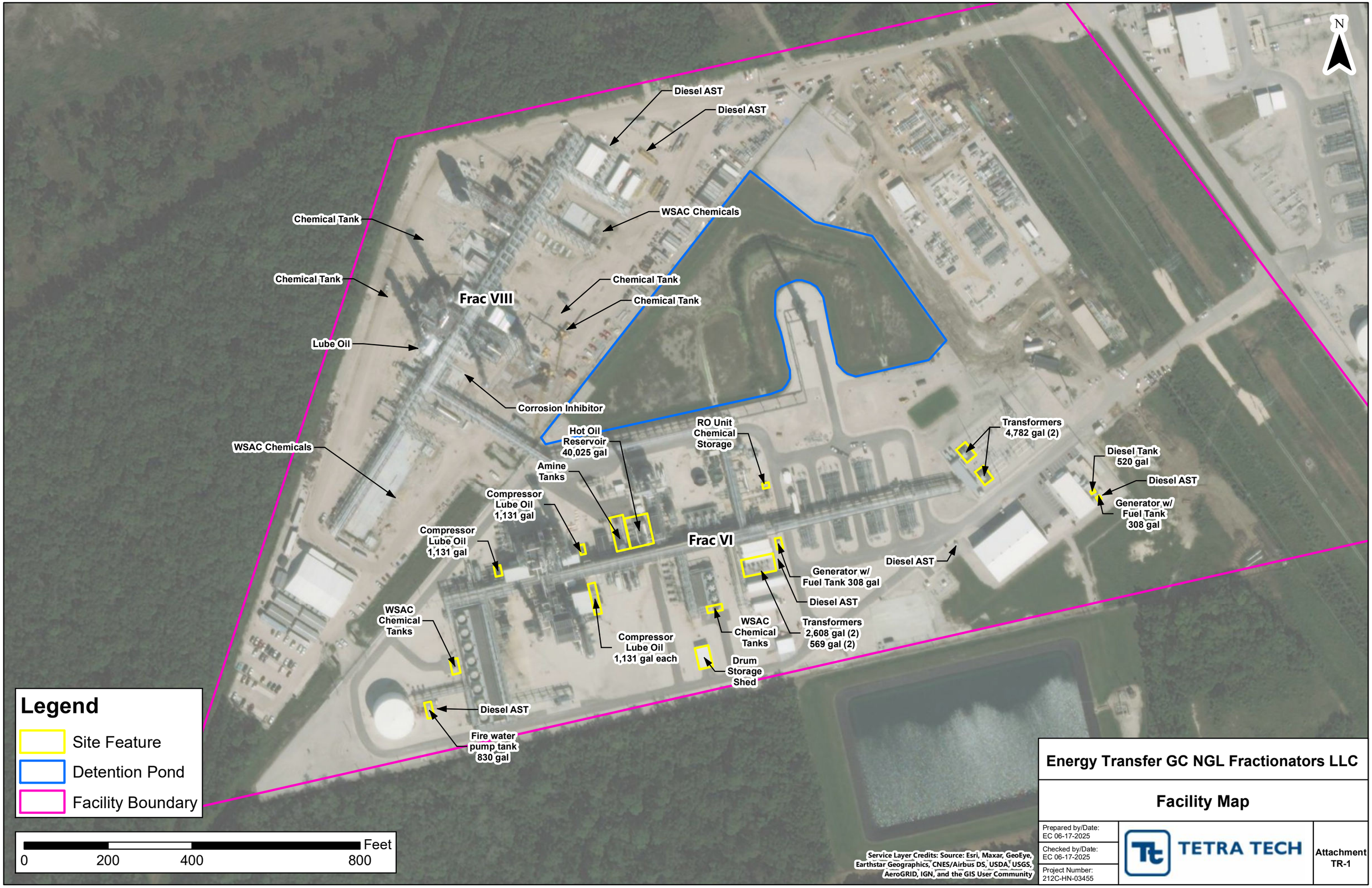
Prepared by/Date: EC 06-16-2025	TETRA TECH
Checked by/Date: EC 06-16/2025	Attachment AR-8
Project Number: 212C-HN-03455	

Fractionator VI & VIII Process Water



Fractionator VI & VIII Process Water





Document Path: G:\Energy Transfer TPDES\MXD\Facility_Map.mxd

Energy Transfer GC NGL Fractionators LLC

Facility Map

Prepared by/Date: EC 06-17-2025	TETRA TECH	Attachment TR-1
Checked by/Date: EC 06-17-2025		
Project Number: 212C-HN-03455		

Candice Calhoun

From: Sexton, Cynthia Mychelle <cynthia.sexton@energytransfer.com>
Sent: Wednesday, August 6, 2025 9:22 AM
To: Candice Calhoun; Crenshaw, Desiree
Cc: Awonuga, Olugbenga (Mojeed); Perry, Anthony; Davila, Hope Breaux; CentenoJimenez, Edwin
Subject: RE: Application to Amend Permit No. WQ0005350000 (Energy Transfer GC NGL Fractionators LLC) - Notice of Deficiency
Attachments: Energy Transfer NOD answer 1.pdf; Industrial Discharge Amendment Spanish NORI.docx; Attachment AR-6 - Adjacent Landowners Labels Rev 1.docx

Good morning Ms., Calhoun,
Please find the attached documents per your request
Thanks

Cynthia Sexton
Associate- Environmental Specialist
Energy Transfer
O: 281.576.3616
M: 936.256.0776

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Monday, August 4, 2025 10:10 AM
To: Crenshaw, Desiree <wylene.crenshaw@energytransfer.com>
Cc: Sexton, Cynthia Mychelle <cynthia.sexton@energytransfer.com>
Subject: Application to Amend Permit No. WQ0005350000 (Energy Transfer GC NGL Fractionators LLC) - Notice of Deficiency
Importance: High

Good morning, Ms. Crenshaw,

The attached Notice of Deficiency (NOD) letter dated August 4, 2025, requests additional information needed to declare the application administratively complete. Please send the complete response no later than August 18, 2025.

Please let me know if you have any questions.

Regards,

Candice Courville
License & Permit Specialist
ARP Team | Water Quality Division
Texas Commission on Environmental Quality
512-239-4312
candice.calhoun@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

Candice Calhoun

From: CentenoJimenez, Edwin <E.CENTENOJIMENEZ@tetratech.com>
Sent: Wednesday, August 6, 2025 10:26 AM
To: Candice Calhoun; Sexton, Cynthia Mychelle; Crenshaw, Desiree
Cc: Awonuga, Olugbenga (Mojeed); Perry, Anthony; Davila, Hope Breaux
Subject: Re: Application to Amend Permit No. WQ0005350000 (Energy Transfer GC NGL Fractionators LLC) - Notice of Deficiency
Attachments: Energy Transfer NOD answer.pdf

Ms. Calhoun,

See the correction in the attached document.

Edwin C. Centeno, PE (LA, TX, PR) | Engineering Project Manager II – Environmental PM | Tetra Tech, Inc.
Direct **+1 (832)-251-6093** | Mobile **+1 (832) 872-1075** | e.centenojimenez@tetratech.com

Tetra Tech | Complex World, Clear Solutions™
1500 CityWest Boulevard, Ste 1000 | Houston, TX 77042 | tetratech.com

Climate positive and carbon negative by 2030. Read more

Book time to meet with me

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Wednesday, August 6, 2025 9:53 AM
To: Sexton, Cynthia Mychelle <cynthia.sexton@energytransfer.com>; Crenshaw, Desiree <wylene.crenshaw@energytransfer.com>
Cc: Awonuga, Olugbenga (Mojeed) <olugbenga.awonuga@energytransfer.com>; Perry, Anthony <Anthony.Perry@energyTransfer.com>; Davila, Hope Breaux <hope.davila@energytransfer.com>; CentenoJimenez, Edwin <e.centenojimenez@tetratech.com>
Subject: RE: Application to Amend Permit No. WQ0005350000 (Energy Transfer GC NGL Fractionators LLC) - Notice of Deficiency

Good morning, Cynthia,

Thank you, your response to items 1 through 3, 5 and 6 are all sufficient. However, I do have a question regarding item 4.

In the technical report, for permitted daily average flow and permitted daily max flow, you had put “variable”. However, in the current permit it shows 0.936 MGD for the daily average flow and 1.276 MGD for the daily max flow. I am thinking those numbers should be put in those spots instead of “variable” but please correct me if I am wrong. I just want to make sure it is accurate.

Thank you,

Candice Courville
License & Permit Specialist
ARP Team | Water Quality Division
Texas Commission on Environmental Quality
512-239-4312
candice.calhoun@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

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From: Sexton, Cynthia Mychelle <cynthia.sexton@energytransfer.com>
Sent: Wednesday, August 6, 2025 9:22 AM
To: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>; Crenshaw, Desiree <wylene.crenshaw@energytransfer.com>
Cc: Awonuga, Olugbenga (Mojeed) <olugbenga.awonuga@energytransfer.com>; Perry, Anthony <Anthony.Perry@energyTransfer.com>; Davila, Hope Breaux <hope.davila@energytransfer.com>; CentenoJimenez, Edwin <e.centenojimenez@tetratech.com>
Subject: RE: Application to Amend Permit No. WQ0005350000 (Energy Transfer GC NGL Fractionators LLC) - Notice of Deficiency

Good morning Ms., Calhoun,
Please find the attached documents per your request
Thanks

Cynthia Sexton
Associate- Environmental Specialist
Energy Transfer
O: 281.576.3616
M: 936.256.0776

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Monday, August 4, 2025 10:10 AM
To: Crenshaw, Desiree <wylene.crenshaw@energytransfer.com>
Cc: Sexton, Cynthia Mychelle <cynthia.sexton@energytransfer.com>
Subject: Application to Amend Permit No. WQ0005350000 (Energy Transfer GC NGL Fractionators LLC) - Notice of

August 5, 2025

Candice Calhoun
Applications Review and Processing Team (MC 148)
Water Quality Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Via email to: **candice.calhoun@tceq.texas.gov**

RE: **Response to TCEQ Notice of Deficiency**
Application for Proposed/Permit No.: WQ0005350000 (EPA I.D. No. TX0134068)
Applicant Name: Energy Transfer GC NGL Fractionators, LLC (CN604309419)
Site Name: MB Frac VI and VIII (RN109902494)
Type of Application: Major amendment with renewal

Dear Ms. Calhoun:

Energy Transfer GC NGL Fractionators, LLC (Select) and Tetra Tech have reviewed the Notice of Deficiency (NOD) and have provided the original requests from Texas Commission on Environmental Quality (TCEQ) and the following responses:

TCEQ Comment:

1. *Item 1 – Supplemental Permit Information Form (SPIF): The location listed in item 1 does not match the facility address listed in the current permit and in the application. Please provide an updated SPIF with the correct facility location/address.*

Tetra Tech/Energy Transfer Response:

Supplemental Permit Information Form (SPIF): Location has been corrected to match the permit address and the SPIF form is updated and is attached as Appendix A.

2. *Item 2 - USGS and Affected Landowner Map: The applicants property boundary is not delineated and labeled on the maps. If the applicants property boundary and the facility property boundary is one in the same, please label it as such on the maps.*

Tetra Tech/Energy Transfer Response:

USGS and Affected Landowner Map have been reviewed and corrected and are attached as Appendix B.

3. *Item 3 - Affected Landowner Mailing Labels: the mailing labels provided include the applicant. The applicant cannot be their own affected landowner. Please remove the applicant from the mailing labels and provided the document in a Microsoft Word document.*

This has been corrected and a separate word document to this letter will contain the corrected mailing labels (Avery 5160) in a Microsoft Word Document.

4. *Item 4 - Technical Report 1.0, item 4: The permitted flow listed does not match what is listed in the current permit. Please provide an updated section of the technical report.*

Tetra Tech/Energy Transfer Response:

Updated section of Technical Report is included as Appendix C.

5. *Item 5 - The following is a portion of the NORI which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete.*

Tetra Tech/Energy Transfer Response:

The NORI did not contain errors or omissions.

6. *Item 6 - The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.*

Tetra Tech/Transfer Response:

A separate word document to this letter will contain NORI translation in Spanish in a Microsoft Word Document.

Thank you for the opportunity to update our application. Please contact Edwin C. Centeno at 832-872-1075 or e.centenojimenez@tetratech.com, or Cynthia Sexton at 281-576-3616 or Cynthia.sexton@energytransfer.com, if you have further questions.

Sincerely,

Edwin C. Centeno

Edwin C. Centeno, PE
Senior Environmental Project Manager
Tetra Tech, Inc.

Cynthia Sexton
Associate-Environmental Specialist
Energy Transfer GC NGL Fractionators, LLC

cc: Desiree Crenshaw, Energy Transfer GC NGL Fractionators, LLC

Appendix A: Updated Supplemental Permit Information Form (SPIF)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ____Minor Amendment ____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

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

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

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

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

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

The following applies to all applications:

1. Permittee: Energy Transfer GC NGL Fractionators LLC

   Permit No. WQ00 05350000 EPA ID No. TX 0134068

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

   Facility is located at 8774 Farm-to-Market Road 1942, near the City of Mont Belvieu, Chamber County, Texas 77521.

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

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

First and Last Name: Cynthia M. Sexton

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

Title: Associate-Environmental Specialist

Mailing Address: 12353 Eagle Pointe Drive

City, State, Zip Code: Mont Belvieu, TX 77523

Phone No.: 281-576-3616 Ext.: Click here to enter text Fax No.: Click here to enter text

E-mail Address: Cynthia.sexton@energytransfer.com

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

N/A

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

Discharge from outfall 001 fall into an unnamed ditch that flows south/southwest for about one-mile until it reaches Cedar Bayou segment 0902. Route is composed of ditches, culverts and underground piping in some areas.

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

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

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

☐ Proposed access roads, utility lines, construction easements

☐ Visual effects that could damage or detract from a historic property's integrity

☐ Vibration effects during construction or as a result of project design

☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

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

N/A

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

The site is already developed.

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

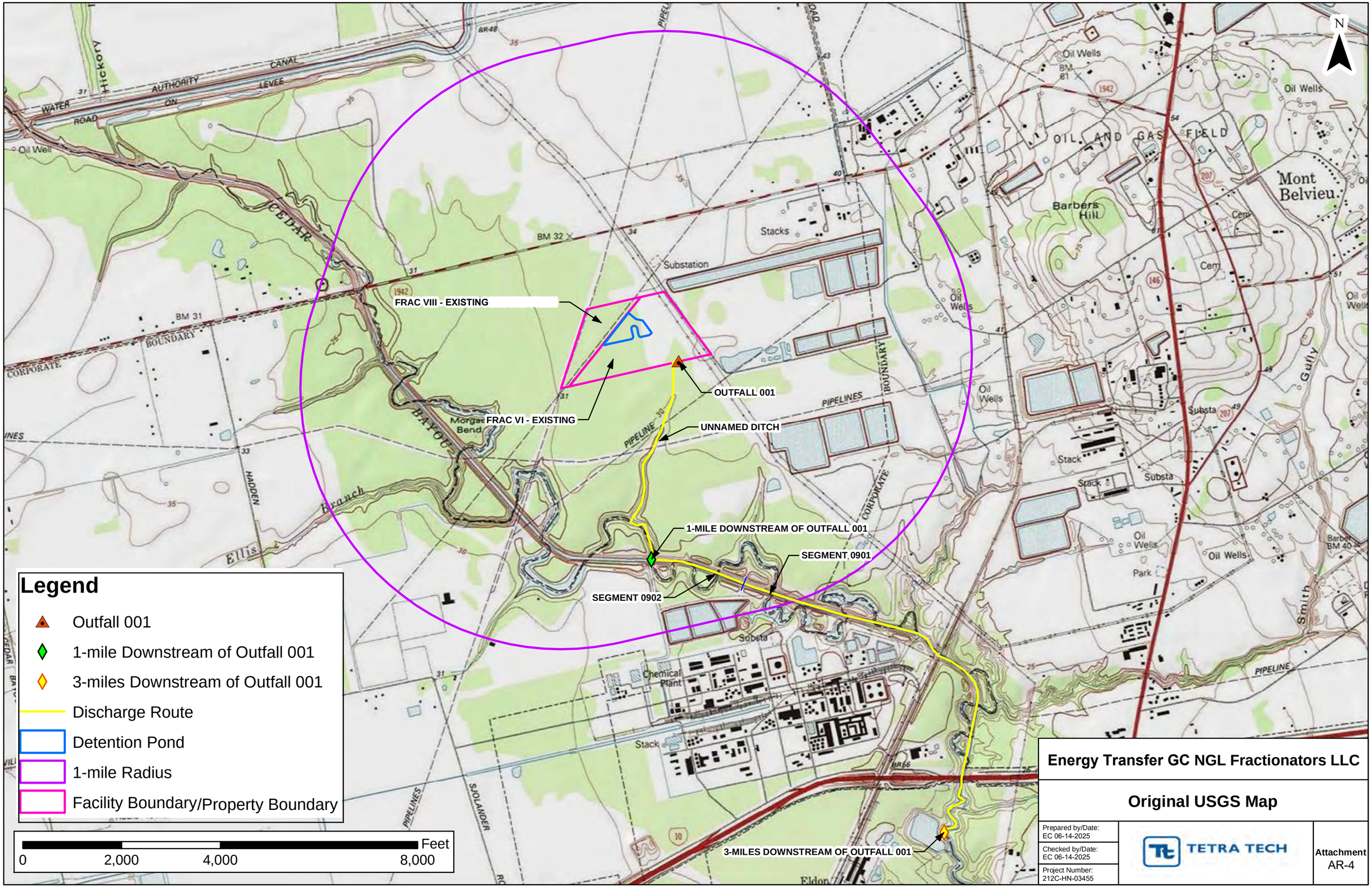
3. List construction dates of all buildings and structures on the property:

Frac VI was finished in 2019 and Frac VIII was finished in 2023.

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

Frac VI and Frac VIII are one of the new additions of a series of fractionators Energy Transfer GC NGL Fractionators have in the area. Property was sold in 2007 to Lone Star NGL Mont Belvieu LP that in 2018 sold the property to Energy Transfer GC NGL Fractionators LLC. The builder was S & B Engineers.

Appendix B: USGS and Affected Landowner Map



Document Path: G:\Energy Transfer TPDES\MXD\OG_USGS.mxd

Energy Transfer GC NGL Fractionators LLC

Original USGS Map

Prepared by/Date: EC 06-14-2025	TETRA TECH
Checked by/Date: EC 06-14-2025	Attachment AR-4
Project Number: 212C-HN-03455	

N

2
1
1
1
1
3
4
1
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3
3
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7
7
8

Legend

- Outfall
- Discharge Route
- Detention Pond
- Adjacent Landowners
- Facility Boundary/Property Boundary

0 1,000 2,000 4,000 Feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, C

Document Path: G:\Energy Transfer TPDES\MXD\adjacent_landowners.mxd

Energy Transfer GC NGL Fractionators LLC

Adjacent Landowners

Prepared by/Date: EC 06-14-2025	TETRA TECH	Attachment AR-5
Checked by/Date: EC 06-14-2025		
Project Number: 212C-HN-03455		

Appendix C: Updated Section of Technical Report

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: Click to enter text.

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

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

Attachment: Click to enter text.

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

Attachment: Click to enter text.

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

Attachment: Click to enter text.

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

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

If there are more outfalls/points of disposal at the facility than the spaces provided, copies of pages 6 and/0r numbered accordingly (i.e., page 6a, 6b, etc.) may be used to provide information on the additional outfalls.

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

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	29.844887	-94.926993

Outfall Location Description

Outfall No.	Location Description
001	Southeast of Frac VI. Discharge to an existing drainage ditch.

Outfall No.	Location Description

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

Outfall No.	Description of sampling point
001	The sampling point is located approximately 385 ft west of Outfall 001.
	Latitude 29.844764, Longitude -94.927598

Outfall Flow Information – Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
001	0.936	1.276	0.936	1.276	Currently Discharging

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	N	Y	Ultrasonic Flow Meter

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	28-31	12

Outfall Wastestream Contributions

Outfall No. **001**

Contributing Wastestream	Volume (MGD) Avg./Max.	Percent (%) of Total Flow
Hydrostatic Test Water	0.0000936/0.00008592	0.01
Surface Air Cooler Blowdown	0.3379896/0.4608	36.11
Reverse Osmosis Reject Water	0.3590496/0.4896	38.36
Fire system testing and blowdown	0.0000936/0.00008592	0.01

Contributing Wastestream	Volume (MGD) Avg./Max.	Percent (%) of Total Flow
Emergency Showers	0.0000936/0.00008592	0.01
Fan cleaning water	0.0000936/0.00008592	0.01
Stormwater	0.237276/0.3235	25.35
Public Water System flush water	0.0000936/0.00008592	0.01
Air Dryer Condensate	0.0012168/0.0016704	0.13
Totals Avg./Max.	0.936 MGD/1.276 MGD	100%

Outfall No. Click to enter text.

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow

Outfall No. Click to enter text.

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow

Attachment: Click to enter text.

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

a. Indicate if the facility currently or proposes to:

☒ Yes ☐ No Use cooling towers that discharge blowdown or other wastestreams

MONT BELVIEU CAVERNS LLC
PO BOX 4018
HOUSTON TX 77210-4018

LONE STAR NGL FRACTIONATORS
LP
1300 MAIN ST
HOUSTON TX 77002

EQUISTAR CHEMICALS LP
16410 N ELDRIDGE PKWY
TOMBALL TX 77377

DOW HYDROCARBONS &
RESOURCES LLC
TAX DEPT, APB BLDG., FLOOR 4A
LAKE JACKSON TX 77566

TARGA DOWNSTREAM LLC c/o
ANDREWS & COMPANY
1900 DALROCK RD
ROWLETT TX 75088

OCCIDENTAL CHEMICAL CORP
0 SJOLANDER (OFF) RD
PICKENS TX 74752

CHEVERON PHILLIPS CHEMICAL
CP LP
9200 E FWY
BAYTOWN TX 77521

LONE STAR NGL MONT BELVIEU
LP
0 PINE LAKE LN
BAYTOWN TX 77521

JOSEPH R. ZORN
9202 WESTVIEW CIRCLE
DALLAS TX 75231-2502