



Administrative Package Cover Page

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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
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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

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.

Valero Refining – Texas, L.P. (CN600127468) operates Valero Refining Company East Plant (RN100211663), a petroleum refinery producing a full spectrum of petroleum products from crude oil. The facility is located at 1147 Cantwell Lane, east of Navigation Boulevard, and approximately 0.5 mile north of Interstate Highway 37, northwest of the City of Corpus Christi, Nueces County, Texas 78407. This application requests the renewal of TPDES Permit No. WQ0000465000 which authorizes an industrial wastewater discharge not to exceed a daily average of 3.0 million gallons per day (MGD) or daily maximum of 4.0 MGD via Outfall 001, an industrial wastewater discharge not to exceed a daily average dry-weather flow of 0.325 MGD via Outfall 004, and stormwater may be discharged through Outfalls 002, 003, and 005 on an intermittent and flow-variable basis. The permit also authorizes the waste streams monitored inside the facility (internal Outfalls 101 and 102) after the treatment system and prior to discharge via Outfall 001 and/or reuse.

Discharges from the facility are subject to federal effluent limitation guidelines at 40 CFR Part 419 Subpart B. The discharge from Outfall 001 and Outfall 101 are expected to contain biochemical oxygen demand, ammonia, temperature, chemical oxygen demand, total suspended solids, oil and grease, sulfide, phenolic compounds, and chromium (total and hexavalent). For Outfalls 002, 003, 004, and 005, discharges are expected to contain total organic carbon and oil and grease. Treated process wastewater, stormwater, and utility wastewaters, and miscellaneous wastewaters are discharged through Outfall 001. Uncontaminated stormwater, steam, compressor, and external steam line condensates, utility wastewater, fire water flush waters, and hydrostatic test waters are discharged through Outfalls 002, 003, 004, and 005. Outfall 004 also authorizes the discharge of non-process utility wastewater. Wastewater is treated via the East Plant wastewater treatment system and is processed through API and CPI oil/water separators prior to collection in an equalization tank, and is then routed to dissolved nitrogen flotation units and a non-contact cooling unit prior to biological treatment in a waste activated sludge system with two parallel bioreactors and clarifiers. Sour water and benzene waste streams are collected separately and processed through a desalter and benzene stripper prior to the sludge dewatering system. Following thickening, sludges and float are processed through the coker unit. The treated effluent is monitored at Outfall 101 and can be discharged via Outfall 001 or routed to Outfall 102 for reuse or additional treatment via reverse osmosis prior to discharge through Outfall 001.

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.

Valero Refining – Texas, L.P. (CN600127468) opera la Planta Este de Valero Refining Company (RN100211663), una refinería de petróleo que produce un espectro completo de productos derivados del petróleo a partir de petróleo crudo. La instalación está ubicada en 1147 Cantwell Lane, al este de Navigation Boulevard, y aproximadamente a 0,5 millas al norte de la autopista interestatal 37, al noroeste de la ciudad de Corpus Christi, condado de Nueces, Texas 78407. Esta solicitud solicita la renovación del permiso TPDES No. WQ0000465000 que autoriza una descarga de aguas residuales industriales que no exceda un promedio diario de 3.0 millones de galones por día (MGD) o un máximo diario de 4.0 MGD a través del emisario 001, una descarga de aguas residuales industriales que no exceda un caudal promedio diario en clima seco de 0.325 MGD a través del emisario 004, y las aguas pluviales pueden descargarse a través de los emisarios 002, 003 y 005 de forma intermitente y con caudal variable. El permiso también autoriza los flujos de residuos monitoreados dentro de las instalaciones (emisarios internos 101 y 102) después del sistema de tratamiento y antes de su descarga a través del emisario 001 o su reutilización.

Las descargas de las instalaciones están sujetas a las directrices federales de limitación de efluentes del Título 40 del Código de Reglamentos Federales (CFR), Parte 419, Subparte B. Se espera que las descargas de los emisarios 001 y 101 contengan demanda bioquímica de oxígeno, amoníaco, temperatura, demanda química de oxígeno, sólidos suspendidos totales, aceite y grasa, sulfuro, compuestos fenólicos y cromo (total y hexavalente). En el caso de los emisarios 002, 003, 004 y 005, se espera que las descargas contengan carbono orgánico total, aceite y grasa. Las aguas residuales de proceso tratadas, las aguas pluviales, las aguas residuales de servicios públicos y otras aguas residuales se descargan a través del emisario 001. Las aguas pluviales no contaminadas, el vapor, los condensados de compresores y líneas de vapor externas, las aguas residuales de servicios públicos, las aguas de lavado con agua contra incendios y las aguas de pruebas hidrostáticas se descargan a través de los emisarios 002, 003, 004 y 005. El emisario 004 también autoriza la descarga de aguas residuales de servicios públicos no procesadas. Las aguas residuales se tratan a través del sistema de tratamiento de aguas residuales de la Planta Este y se procesan a través de separadores de aceite/agua API y CPI antes de su recolección en un tanque de ecualización, y luego se dirigen a unidades de flotación de nitrógeno disuelto y a una unidad de enfriamiento sin contacto antes del tratamiento biológico en un sistema de lodos activados residuales con dos biorreactores y clarificadores paralelos. Las corrientes de agua ácida y benceno residuales se recolectan por separado y se procesan a través de un desalinizador y un separador de benceno antes del sistema de deshidratación de lodos. Tras el espesamiento, los lodos y el flotador se procesan en la unidad de coquización. El efluente tratado se monitoriza en el emisario 101 y puede descargarse por el emisario 001 o dirigirse al emisario 102 para su reutilización o tratamiento adicional por ósmosis inversa antes de su descarga por el emisario 001.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

PERMIT NO. WQ0000465000

APPLICATION. Valero Refining-Texas, L.P., P.O. Box 9370, Corpus Christi, Texas 78469, which owns an integrated petroleum refinery producing a full spectrum of petroleum products from crude oil, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0000465000 (EPA I.D. No. TX0006904) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 3,000,000 gallons per day via Outfall 001; the discharge of treated wastewater and stormwater at an intermittent and flow variable basis via Outfalls 002, 003, and 005; and the discharge of treated wastewater and stormwater at a volume not to exceed a daily average dry weather flow of 325,000 gallons per day via Outfall 004. The facility is located at 1147 Cantwell Lane, near the city of Corpus Christi, in Nueces County, Texas 78407. The discharge route is from the plant site via Outfall 001 directly to Corpus Christi Inner Harbor; and via Outfalls 002, 003, 004, and 005 to a series of unnamed ditches; thence to an unnamed tidal ditch; thence to Corpus Christi Inner Harbor. TCEQ received this application on October 14, 2025. The permit application will be available for viewing and copying at La Retama Central Library, 805 Comanche Street, Corpus Christi, in Nueces County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.446111,27.806944&level=18>

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

El aviso de idioma alternativo en español está disponible en

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

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

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

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

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

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

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

TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county.

If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

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

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

Further information may also be obtained from Valero Refining-Texas, L.P. at the address stated above or by calling Ms. Bailey Sutherlin, Environmental Engineer, Valero Corpus Christi Refineries, at 361-299-3983.

Issuance Date: November 4, 2025

Comisión de Calidad Ambiental del Estado de Texas



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

PERMISO NO. WQ0000465000

SOLICITUD. Valero Refining-Texas, L.P., P.O. Box 9370, Corpus Christi, Texas 78469, que posee una refinería de petróleo integrada que produce un espectro completo de productos derivados del petróleo crudo, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0000465000 (EPA I.D. No. TX0006904) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 3,000,000 galones por día via Outfall 001; la descarga de aguas residuales tratadas y pluviales de forma intermitente y de flujo variable a través de los emisarios 002, 003 y 005; y la descarga de aguas residuales tratadas y pluviales en un volumen que no exceda un flujo promedio diario en clima seco de 325,000 galones por día a través del desagüe 004. La planta está ubicada 1147 Cantwell Lane, la Ciudad de Corpus Christi, en el Condado de Nueces, Texas 78407. La ruta de descarga es del sitio de la planta a a través del desagüe 001 directamente al puerto interior de Corpus Christi; y a través del desagüe 002, 003, 004 y 005 a una serie de zanjias sin nombre; de allí a una zanja de marea sin nombre; de allí al puerto interior de Corpus Christi. La TCEQ recibió esta solicitud el 14 de octubre de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Central La Retama, 805 Comanche Street, Corpus Christi, en el condado de Nueces, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

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

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

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.446111,27.806944&level=18>

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

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

que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.

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

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

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

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

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

presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

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

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

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

También se puede obtener información adicional del Valero Refining-Texas, L.P. a la dirección indicada arriba o llamando a Sra. Bailey Sutherlin, Ingeniera Ambiental, Refinerías Valero Corpus Christi al 361-299-3983.

Fecha de emisión: 4 de noviembre de 2025



October 8, 2025

Texas Commission on Environmental Quality
Water Quality Division
Applications Review and Processing Team, MC-148
P.O. Box 13087
Austin, TX 78711-3087

Re: Valero Refining Company – East Plant
Permit Renewal Application: Texas Pollutant Discharge Elimination System Permit No. WQ0000465000

Dear Sir or Madam:

Enclosed is the renewal application for Texas Pollutant Discharge Elimination System (TPDES) permit no. WQ0000465000 for the discharge from Valero Refining East Plant. This application packet includes data evaluations for Outfalls 001, 002, 003, 004, and 005 supporting the renewal of the TPDES permit.

Valero Refining Company (Valero) is submitting this information to assist you in evaluating the outfalls, as well as to assist you in developing permit limits and monitoring requirements. The renewal application materials submitted herein include:

- Submission Checklist
- Industrial Administrative Report 1.0
- Industrial Technical Report 1.0
 - Worksheet 1.0
 - Worksheet 2.0
 - Worksheet 4.0
 - Worksheet 7.0

List of Attachments to Application:

- Attachment A – Payment Voucher
- Attachment B – Core Data Form
- Attachment C – Plain Language Form
- Attachment D – USGS Topographic Quadrangle Map
- Attachment E – SPIF
- Attachment F – Facility Description
- Attachment G – Raw Materials and Products List
- Attachment H – Site Maps
- Attachment I – Flow Schematic Diagrams (includes Water Balance)
- Attachment J – Wastestream Contributions
- Attachment K – Safety Data Sheets (SDSs)
- Attachment L – Laboratory Information
- Attachment M – Supplemental Information for Valero 2025 TPDES Permit Renewal Application. This includes:
 - Background information and description of outfalls.
 - An effluent analysis of permitted parameters.
 - Summary of the reasonable potential analysis conducted.
 - Summary of whole effluent toxicity testing results.



A thorough evaluation of this data should provide you with the information you need to assess the site for the permit renewal.

Please contact me at 361-299-3983 or bailey.sutherlin@valero.com if we can be of any further assistance in your evaluation of this permit application.

Sincerely,

A handwritten signature in black ink that reads 'Bailey Sutherlin'.

Bailey Sutherlin
Environmental Engineer
Valero Corpus Christi Refineries



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

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

APPLICANT NAME: Valero Refining - Texas, L.P.

PERMIT NUMBER (If new, leave blank): WQ0000465000

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

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

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION

ADMINISTRATIVE REPORT 1.0

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

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use the Oil and Gas Exploration and Production Administrative Report ([TCEQ Form-20893 and 20893-inst¹](#)).

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

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

Applicant Name: Valero Refining – Texas, L.P.

Permit No.: WQ0000465000

EPA ID No.: TX00006904

Expiration Date: April 8, 2026

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

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

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

☒ Active

☐ Inactive

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

☒ TPDES Permit

☐ TLAP

☐ TPDES with TLAP component

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

☐ New

☐ Renewal with changes

☒ Renewal without changes

☐ Major amendment with renewal

☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

- f. If applying for an amendment or modification, describe the request: N/A

For TCEQ Use Only

Segment Number _____ County _____

Expiration Date _____ Region _____

Permit Number _____

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

g. Application Fee

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

h. Payment Information

Mailed

Check or money order No.: [Click to enter text.](#)

Check or money order amt.: [Click to enter text.](#)

Named printed on check or money order: [Click to enter text.](#)

Epay

Voucher number: 785814

Copy of voucher attachment: Attachment A

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN600127468

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

b. Legal name of the entity (applicant) applying for this permit: Valero Refining – Texas, L.P.

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

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

Prefix: Mr. Full Name (Last/First Name): Sharon, Kyle

Title: Vice President and General Manager Credential: [Click to enter text.](#)

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

☒ Yes ☐ No

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

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

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

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

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

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

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

b. Customer Number (if applicant is an existing customer): CNClick to enter text.

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

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

Prefix: Click to enter text.

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

Title: Click to enter text.

Credential: Click to enter text.

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

☐ Yes ☐ No

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

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

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

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

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

a. ☒ Administrative Contact . ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Valero Corpus Christi Refineries

Mailing Address: 1147 Cantwell Lane

City/State/Zip: Corpus Christi, TX, 78407

Phone No: 361-299-3983

Email: bailey.sutherlin@valero.com

b. ☐ Administrative Contact ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Romero, Ashley

Title: Water Quality Scientist Credential: M.S.

Organization Name: GEI Consultants, Inc.

Mailing Address: 4601 DTC Boulevard, Suite 325

City/State/Zip: Denver, CO, 80237

Phone No: 303-264-1092

Email: aromero@geiconsultants.com

Attachment: N/A

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

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

- a. Prefix: Mr. Full Name (Last/First Name): Sharon, Kyle
Title: Vice President Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX 78469
Phone No: 361-289-6000 Email: kyle.sharon@valero.com
- b. Prefix: Mr. Full Name (Last/First Name): Hammersmith, Michael
Title: Director Environmental Health and Safety Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX 78469
Phone No: 361-289-3328 Email: michael.hammersmith@valero.com
- Attachment: N/A

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

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

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

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey
Title: Environmental Engineer Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: 1147 Cantwell Lane City/State/Zip: Corpus Christi, TX 78407
Phone No: 361-299-3983 Email: bailey.sutherlin@valero.com

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

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

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey
Title: Environmental Engineer Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: 1147 Cantwell Lane City/State/Zip: Corpus Christi, TX 78407
Phone No: 361-299-3983 Email: bailey.sutherlin@valero.com

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Valero Corpus Christi Refineries

Mailing Address: 1147 Cantwell Lane

City/State/Zip: Corpus Christi, TX 78407

Phone No: 361-299-3983

Email: bailey.sutherlin@valero.com

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

☒ E-mail: bailey.sutherlin@valero.com and aromero@geiconsultants.com

☐ Fax: Click to enter text.

☒ Regular Mail (USPS)

Mailing Address: 1147 Cantwell Lane

City/State/Zip Code: Corpus Christi, TX 78407

c. Contact in the Notice

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Valero Corpus Christi Refineries

Phone No: 361-299-3983

Email: bailey.sutherlin@valero.com

d. Public Viewing Location Information

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

Public building name: La Retama Central Library Location within the building: Click to enter text.

Physical Address of Building: 805 Comanche Street

City: Corpus Christi County: Nueces

e. Bilingual Notice Requirements

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

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

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

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

☒ Yes ☐ No

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

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?
☒ Yes ☐ No
3. Do the students at these schools attend a bilingual education program at another location?
☐ Yes ☒ No
4. Would the school be required to provide a bilingual education program, but the school has waived out of this requirement under 19 TAC §89.1205(g)?
☐ Yes ☒ No ☐ N/A
5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish
- f. Plain Language Summary Template – Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment. Attachment: C
- g. Complete one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment and include as an attachment. Attachment: N/A

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

- a. TCEQ issued Regulated Entity Number (RN), if available: RN100211663
Note: If your business site is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.
- b. Name of project or site (the name known by the community where located): Valero Refining Company East Plant
- c. Is the location address of the facility in the existing permit the same?
☒ Yes ☐ No ☐ N/A (new permit)
Note: If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.
- d. Owner of treatment facility:
Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.
or Organization Name: Valero Refining – Texas, L.P.
Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX 78469
Phone No: 361-289-6000 Email: Click to enter text.
- e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal
- f. Owner of land where treatment facility is or will be: Click to enter text.

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

or Organization Name: Valero Corpus Christi Refineries

Mailing Address: P.O. Box 9370

City/State/Zip: Corpus Christi, TX 78469

Phone No: 361-289-6000

Email: bailey.sutherlin@valero.com

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

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

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

or Organization Name: N/A

Mailing Address: [Click to enter text.](#)

City/State/Zip: [Click to enter text.](#)

Phone No: [Click to enter text.](#)

Email: [Click to enter text.](#)

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

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

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

or Organization Name: N/A

Mailing Address: [Click to enter text.](#)

City/State/Zip: [Click to enter text.](#)

Phone No: [Click to enter text.](#)

Email: [Click to enter text.](#)

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

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

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

☐ Yes ☒ No

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

☒ One-mile radius

☒ Three-miles downstream information

☒ Applicant's property boundaries

☒ Treatment facility boundaries

☒ Labeled point(s) of discharge

☒ Highlighted discharge route(s)

☐ Effluent disposal site boundaries

☒ All wastewater ponds

☐ Sewage sludge disposal site

☐ New and future construction

Attachment: D

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

☐ Yes ☐ No or New Permit N/A

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

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

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: [Click to enter text.](#)

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

☒ Yes ☐ No or New Permit

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

f. City nearest the outfall(s): Corpus Christi

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

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

☐ Yes ☒ No

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

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: N/A

For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: N/A

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

☐ Yes No or New Permit ☒ N/A

If no, or a new application, provide an accurate location description: [Click to enter text.](#)

j. City nearest the disposal site: [Click to enter text.](#)

k. County in which the disposal site is located: [Click to enter text.](#)

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: [Click to enter text.](#)

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: [Click to enter text.](#)

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: [Click to enter text.](#)

- b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: [Click to enter text.](#)

Total amount due: [Click to enter text.](#)

- c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: [Click to enter text.](#)

Amount due: [Click to enter text.](#)

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ0000465000

Applicant Name: Valero Refining - Texas L.P.

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

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

Signatory name (typed or printed): Kyle Sharon

Signatory title: Vice President and General Manager

Signature: [Signature]
(Use blue ink)

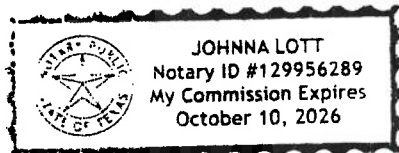
Date: 10/8/2025

Subscribed and Sworn to before me by the said Kyle Sharon
on this eighth day of October, 20 25.

My commission expires on the tenth day of October, 20 26.

[Signature]
Notary Public

Nueces
County, Texas



[SEAL]

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: E



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

For **additional information** or clarification on the requested information, please refer to the [Instructions for Completing the Industrial Wastewater Permit Application](https://www.tceq.texas.gov/permitting/wastewater/industrial/TPDES_industrial_wastewater_steps.html)¹ available on the TCEQ website. Please contact the Industrial Permits Team at 512-239-4671 with any questions about this form.

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

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

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

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

The Valero Refining – Texas, L.P.’s East Plant is a petroleum refinery capable of processing up to 115,000 barrels per day. A variety of petroleum products are produced, including but not limited to propane, butane, gasoline, kerosene, diesel fuel, jet fuel, benzene, toluene, decanted oil, turbine fuel, gas oil, No. 6 fuel oil, sulfur, petroleum coke, and No. 2 fuel oil. SIC Codes 2911 (Petroleum Refining), 4491 (Marine Cargo Handling), 4911 (Electric Services), and 5171 (Petroleum Bulk stations and Terminals). See Attachment F for additional information.

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

See Attachment F.

¹

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

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

Materials List

Raw Materials	Intermediate Products	Final Products
See Attachment G		

Attachment: G

- 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: H

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

☐ Yes ☒ No

If **yes**, provide background discussion: [Click to enter text.](#)

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

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain: FEMA Nueces County Flood Insurance Map

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

Attachment: N/A

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

☐ Yes ☐ No ☒ N/A (renewal only)

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

☐ Yes ☐ No

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

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

Item 2. Treatment System (Instructions, Page 40)

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

See Attachment F

- 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: I

Item 3. Impoundments (Instructions, Page 40)

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

☐ Yes ☒ No

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

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

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

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

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

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

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

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

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

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

Impoundment Information

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

Attachment: N/A

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

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

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data N/A

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: N/A

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

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

Attachment: N/A

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

Attachment: N/A

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

Attachment: N/A

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

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

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

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

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	27.816828	-97.453952
002	27.812709	-97.441901
003	27.810397	-97.451823

Outfall Location Description

Outfall No.	Location Description
001	From pipeline on the west side of the mouth of Heldenfels Ditch into the Corpus Christi Inner Harbor
002	At stormwater discharge pipe near the NW corner of Complex 8 South prior to entering a drainage ditch
003	At stormwater discharge channel near the west edge of the Complex 7 prior to entering a drainage ditch

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

Outfall No.	Description of sampling point
001	Following the last treatment unit and prior to entering the pipeline discharging to the Corpus Christi Inner Harbor
002	At the stormwater discharge pipe near the northwest corner of the Complex 8 South prior to entering the drainage ditch
003	At the stormwater discharge channel near the west edge of Complex 7 and prior to entering the drainage ditch

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	3.0	4.0	--	--	Existing
002	N/A	N/A	--	--	Existing
003	N/A	N/A	--	--	Existing

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	Y	N	In-line meter
002	N	Y	Estimate
003	N	Y	Estimate

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	30	12
002	Y	N	N	Variable	Variable	Variable
003	Y	N	N	Variable	Variable	Variable

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
004	27.810911	-97.456748
005	27.814729	-97.439124

Outfall Location Description

Outfall No.	Location Description
004	At Complex 8Q tank farm discharge pipeline into the drainage ditch that runs along Up River Road
005	At stormwater drainage ditch on the west side of Complex 8 North

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

Outfall No.	Description of sampling point
004	At the Complex 8Q tank farm discharge pipeline prior to entering the drainage ditch that runs along Up River Road
005	At the stormwater drainage ditch on the west side of Complex 8 North

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)
004	0.325*	N/A	--	--	Existing
005	N/A	N/A	--	--	Existing
	*normal dry weather flows				

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
004	Y	N	Estimate
005	N	Y	Estimate

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
004	Y	N	N	Variable	Variable	Variable
005	Y	N	N	Variable	Variable	Variable

Outfall Wastestream Contributions

Outfall No. **001**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Treated process wastewater	0.998	37%
Treated stormwater	0.600	22%
Cooling tower blowdown	0.326	12%
RO and demineralizer generation wastewater	0.300	11%
Boiler blowdown	0.448	16%
Recovered groundwater	0.050	2%
Miscellaneous wastewaters*	Minimal	--
*See Attachment F for details regarding miscellaneous wastewater streams		

Outfall No. **002**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Stormwater run-off	Variable	--
Steam condensate	Variable	--
Compressor condensate	Variable	--
External steam line condensate	Variable	--
Uncontaminated utility wastewater	Variable	--
Fire water flush waters	Variable	--
Hydrostatic test water	Variable	--

Outfall No. **003**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Stormwater run-off	Variable	--
Steam Condensate	Variable	--
Compressor condensate	Variable	--
External steam line condensate	Variable	--
Uncontaminated utility wastewater	Variable	--
Fire water flush waters	Variable	--
Hydrostatic test water	Variable	--

Attachment: **J**

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: K

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	7	780,000	1,634,400
Boilers	22	588,000	1,045,500

Item 6. Stormwater Management (Instructions, Page 44)

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

- ☒ Yes ☐ No

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

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: Pumped and transported to city of Corpus Christi
- 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.
City of Corpus Christi Broadway Wastewater Treatment Plant	TPDES No. 10401-005

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

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

Item 9. Toxicity Testing (Instructions, Page 45)

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

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: All toxicity tests have been submitted previously to the TCEQ in accordance with the facility's TPDES permit.

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

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: F

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

☐ Yes ☒ No

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

Attachment: N/A

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

☐ Yes ☒ No

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

Item 11. Radioactive Materials (Instructions, Page 46)

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

☐ Yes ☒ No

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

Radioactive Materials Mined, Used, Stored, or Processed

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

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

☐ Yes ☒ No

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

Radioactive Materials Present in the Discharge

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

Item 12. Cooling Water (Instructions, Page 46)

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

☒ Yes ☐ No

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

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

☐ Yes ☒ No

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

- c. Cooling Water Supplier

- 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	City of Corpus Christi			

CWIS ID				
Operator	City of Corpus Christi			

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

☒ Yes ☐ No

If **no**, continue. If **yes**, provide the PWS Registration No. and stop here: PWS No. 1780003

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

If **no**, proceed to Item 12.d. If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes and proceed: [Click to enter text.](#)

d. 316(b) General Criteria

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If **no**, provide an explanation of how the waterbody does not meet the definition of Waters of the United States in *40 CFR § 122.2*: [Click to enter text.](#)

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

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

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

☐ Yes ☐ No

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

f. Oil and Gas Exploration and Production

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

g. Compliance Phase and Track Selection

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

☐ Yes ☐ No

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

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

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

☐ Track I – AIF greater than 10 MGD

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

☐ Track II

- Attach information required by *40 CFR § 125.86(c)*.

Attachment: [Click to enter text.](#)

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

☐ Track I – Fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – Not a fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except CWIS latitude/longitude under Item 2.a).

☐ Track II – Fixed facility

- Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: [Click to enter text.](#)

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

This item is only applicable to existing permitted facilities.

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

☐ Yes ☒ No

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

N/A

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

☐ Yes ☒ No

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

N/A

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

☐ Yes ☒ No

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

N/A

Item 14. Laboratory Accreditation (Instructions, Page 49)

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

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

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

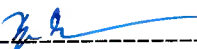
The following certification statement shall be signed and submitted with every application. See the *Signature Page* section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

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

Printed Name: Click to enter text.

Title: Click to enter text.

Signature: 

Date: 10/8/2025

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
Petroleum Refining	419

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
Atmospheric Distillation	87	110	1,000 bpd
Vacuum Distillation	40	63	1,000 bpd
Crude Desalting	87	110	1,000 bpd
ULSD	64	72	1,000 bpd
Delayed Coking	14.5	19.7	1,000 bpd
Asphalt	14	19	1,000 bpd

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units

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

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

Percentage of Total Production

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

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

The East Plant is subject to Subcategory B – Cracking.

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.

Description	Average Flow Rate (gpd)
Outfall 001	
Process Wastewater	998,000
Cooling Tower Blowdown	325,500
Contaminated Stormwater Run-Off ⁽¹⁾	600,000
Boiler Blowdown	448,000
RO Reject and Demineralizer Regeneration Wastewater	300,500
Recovered Groundwater	50,000
Miscellaneous Wastewaters ⁽²⁾	Minimal
Notes:	
(1) Stormwater flows estimated based on difference between minimum and average wastewater flows.	
(2) See Attachment F for description of miscellaneous flows.	

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
Cracking Subcategory	419	B	1930's

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)

- 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): 07/15/2025-08/13/2025
- ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.
- 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: L

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

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

TABLE 1 and TABLE 2 (Instructions, Page 58)

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

Table 1 for Outfall No.: 001

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	3.06	3.28	2.99	3.81
CBOD (5-day)	<2.00	<2.00	<2.00	<2.00
Chemical oxygen demand	52.8	67.0	43.0	50.0
Total organic carbon	2.43	1.44	1.64	1.36
Dissolved oxygen ¹	9.73	9.40	9.50	9.35
Ammonia nitrogen	0.188	0.178	0.110	<0.051
Total suspended solids	<4.00	18.4	10.5	15.6
Nitrate nitrogen	10.6	20.2	27.5	33.5
Total organic nitrogen	1.77	0.732	7.49	0.874
Total phosphorus	0.984	1.45	3.31	2.70
Oil and grease	<1.65	<1.57	2.11	1.80
Total residual chlorine ¹	<0.05	<0.05	<0.05	<0.05

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total dissolved solids	5580	4440	3740	5800
Sulfate	343	296	271	309
Chloride	1810	2150	1610	2650
Fluoride	1.01	1.21	0.946	1.26
Total alkalinity (mg/L as CaCO ₃)	145	118	125	124
Temperature (°F)	95.5	93.2	90.0	91.8
pH (standard units)	7.35	7.56	7.49	7.50

Notes: ¹ All results for this parameter analyzed out of the 15 minute hold time, however, were analyzed within the same day of sample collection by an outside laboratory.

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	120	93.3	55.5	43.1	2.5
Antimony, total	1.44	5.05	3.50	3.36	5
Arsenic, total	7.91	11.1	14.4	17.3	0.5
Barium, total	974	1350	929	1870	3
Beryllium, total	<0.375	<0.375	<0.375	<0.375	0.5
Cadmium, total	<0.258	<0.258	<0.258	<0.258	1
Chromium, total	<20	<20	<20	<2	3
Chromium, hexavalent	<0.5	<10	<3	<10	3
Chromium, trivalent	<0.5	<10	<3	<10	N/A
Copper, total	10.7	13.8	10.6	15.5	2
Cyanide, available	<0.715	<0.715	0.9805	<0.715	2/10
Lead, total	<0.369	<0.369	<0.369	<0.369	0.5
Mercury, total	<0.0525	0.0550	<0.0525	<0.0525	0.005/0.0005
Nickel, total	4.13	4.97	4.19	6.70	2
Selenium, total	65.6	81.4	70.5	93.7	5
Silver, total	<0.351	<0.351	<0.351	<0.351	0.5
Thallium, total	<0.215	<0.215	<0.215	<0.215	0.5
Zinc, total	11.0	11.2	9.61	12.7	5.0

TABLE 3 (Instructions, Page 58)

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

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

Table 3 for Outfall No.: **001**Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<14.3	<14.3	<14.3	<14.3	50
Anthracene	<0.104	<0.104	<0.104	<1.50	10
Benzene	<0.460	<0.460	<0.460	<0.460	10
Benzidine	<0.540	<0.541	<0.541	<20.0	50
Benzo(a)anthracene	<0.126	<0.127	<0.127	<0.173	5
Benzo(a)pyrene	<0.107	<0.107	<0.107	<0.364	5
Bis(2-chloroethyl)ether	<0.106	<0.107	<0.107	<2.16	10
Bis(2-ethylhexyl)phthalate	<0.569	<0.571	<0.571	<0.277	10
Bromodichloromethane [Dichlorobromomethane]	<0.552	<0.552	<0.552	<0.552	10
Bromoform	<0.633	<0.633	<0.633	<0.633	10
Carbon tetrachloride	<0.896	<0.896	<0.896	<0.896	2
Chlorobenzene	<0.455	<0.455	<0.455	<0.455	10
Chlorodibromomethane [Dibromochloromethane]	<0.547	<0.547	<0.547	<0.547	10
Chloroform	<0.464	<0.464	<0.464	<0.464	10
Chrysene	<0.0963	<0.0965	<0.0965	<0.222	5
m-Cresol [3-Methylphenol]	<0.0941	<0.0944	<0.0944	<2.62	10
o-Cresol [2-Methylphenol]	<0.109	<0.109	<0.109	<1.62	10
p-Cresol [4-Methylphenol]	<0.0941	<0.0944	<0.0944	<2.62	10
1,2-Dibromoethane	<0.999	<0.999	<0.999	<0.999	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.413	<0.413	<0.413	<0.413	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.429	<0.429	<0.429	<0.429	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.449	<0.449	<0.449	<0.449	10
3,3'-Dichlorobenzidine	<0.648	<0.650	<0.650	<0.341	5
1,2-Dichloroethane	3.60	<0.372	<0.372	<0.372	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]	<0.738	<0.738	<0.738	<0.738	10
Dichloromethane [Methylene chloride]	<1.73	<1.73	<1.73	<1.73	20
1,2-Dichloropropane	<0.556	<0.556	<0.556	<0.556	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1.27	<1.27	<1.27	<1.27	10
2,4-Dimethylphenol	<0.112	<0.112	<0.112	<0.649	10
Di-n-Butyl phthalate	<0.658	<0.660	<0.660	<0.252	10
Ethylbenzene	<0.385	<0.385	<0.385	<0.385	10
Fluoride	1010	1210	946	1260	500
Hexachlorobenzene	<0.132	<0.132	<0.132	<0.307	5
Hexachlorobutadiene	<0.627	<0.627	<0.627	<0.627	10
Hexachlorocyclopentadiene	<0.179	<0.179	<0.179	<10.0	10
Hexachloroethane	<0.125	<0.125	<0.125	<0.526	20
Methyl ethyl ketone	<8.28	<8.28	<8.28	<8.28	50
Nitrobenzene	<0.152	<0.152	<0.152	<1.66	10
N-Nitrosodiethylamine	<0.671	<0.673	<0.673	<1.75	20
N-Nitroso-di-n-butylamine	<0.722	<0.724	<0.724	<1.49	20
Nonylphenol	<1.58	<1.58	<1.58	<10.0	333
Pentachlorobenzene	<0.125	<0.125	<0.125	<1.07	20
Pentachlorophenol	<0.311	<0.312	<0.312	<0.234	5
Phenanthrene	<0.106	<0.107	<0.107	<1.42	10
Polychlorinated biphenyls (PCBs) (**)	<0.0443	<0.0443	<0.0443	<0.0443	0.2
Pyridine	<0.834	<0.837	<0.837	<10.0	20
1,2,4,5-Tetrachlorobenzene	<0.115	<0.115	<0.115	<1.32	20
1,1,2,2-Tetrachloroethane	<0.470	<0.470	<0.470	<0.470	10
Tetrachloroethene [Tetrachloroethylene]	<0.655	<0.655	<0.655	<0.655	10
Toluene	<0.475	<0.475	<0.475	<0.475	10
1,1,1-Trichloroethane	<0.585	<0.585	<0.585	<0.585	10
1,1,2-Trichloroethane	<0.411	<0.411	<0.411	<0.411	10
Trichloroethene [Trichloroethylene]	<1.50	<1.50	<1.50	<1.50	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
2,4,5-Trichlorophenol	<0.430	<0.431	<0.431	<2.00	50
TTHM (Total trihalomethanes)	<0.5	<0.5	<0.2	<0.2	10
Vinyl chloride	<0.428	<0.428	<0.428	<0.428	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.: **001**

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)	26.6	3	3.1	5.2	N/A
<i>E. coli</i> (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.: **N/A**

Samples are (check one): ☐ Composite ☐ Grab

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Endosulfan I (<i>alpha</i>)					0.01
Endosulfan II (<i>beta</i>)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (<i>alpha</i>)					0.05
Hexachlorocyclohexane (<i>beta</i>)					0.05
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 is required for all external outfalls.

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

Samples are (check one): ☐ Composite ☒ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	9.64	3.87	7.94	20.2	400
Color (PCU)	☒	☐	20	20	20	20	—
Nitrate-Nitrite (as N)	☒	☐	9.28	18.2	17.9	32.8	—
Sulfide (as S)	☐	☒					—
Sulfite (as SO ₃)	☐	☒					—
Surfactants	☒	☐	0.259	0.247	0.24		—
Boron, total	☒	☐	2.02	0.986	1.55	2.97	20
Cobalt, total	☐	☒					0.3
Iron, total	☒	☐	0.0839	0.0358	0.0363	0.0534	7
Magnesium, total	☒	☐	43.9	34.5	38.5	63.3	20
Manganese, total	☒	☐	0.205	0.0365	0.0467	0.0207	0.5
Molybdenum, total	☒	☐	0.0138	0.0214	0.0231	0.0175	1
Tin, total	☐	☒					5
Titanium, total	☐	☒					30

TABLE 7 (Instructions, Page 60)

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

☐ N/A

Table 7 for Applicable Industrial Categories

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

* Test if believed present.

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

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

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

Table 8 for Outfall No.: 001

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<11.1	<11.1	<11.1	<11.1	50
Acrylonitrile	<14.3	<14.3	<14.3	<14.3	50
Benzene	<0.460	<0.460	<0.460	<0.460	10
Bromoform	<0.633	<0.633	<0.633	<0.633	10
Carbon tetrachloride	<0.896	<0.896	<0.896	<0.896	2
Chlorobenzene	<0.455	<0.455	<0.455	<0.455	10
Chlorodibromomethane	<0.547	<0.547	<0.547	<0.547	10
Chloroethane	<1.98	<1.98	<1.98	<1.98	50
2-Chloroethylvinyl ether	<0.753	<0.753	<0.753	<0.753	10
Chloroform	<0.464	<0.464	<0.464	<0.464	10
Dichlorobromomethane [Bromodichloromethane]	<0.552	<0.552	<0.552	<0.552	10
1,1-Dichloroethane	<0.635	<0.635	<0.635	<0.635	10
1,2-Dichloroethane	3.60	<0.372	<0.372	<0.372	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<0.738	<0.738	<0.738	<0.738	10
1,2-Dichloropropane	<0.556	<0.556	<0.556	<0.556	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1.27	<1.27	<1.27	<1.27	10
Ethylbenzene	<0.385	<0.385	<0.385	<0.385	10
Methyl bromide [Bromomethane]	<1.42	<1.42	<1.42	<1.42	50
Methyl chloride [Chloromethane]	<2.04				50
Methylene chloride [Dichloromethane]	<1.73	<1.73	<1.73	<1.73	20
1,1,2,2-Tetrachloroethane	<0.470	<0.470	<0.470	<0.470	10
Tetrachloroethylene [Tetrachloroethene]	<0.655	<0.655	<0.655	<0.655	10
Toluene	<0.475	<0.475	<0.475	<0.475	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<0.368	1.66	<0.368	<0.368	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	<0.585	<0.585	<0.585	<0.585	10
1,1,2-Trichloroethane	<0.411	<0.411	<0.411	<0.411	10
Trichloroethylene [Trichloroethene]	<1.5	<1.5	<1.5	<1.5	10
Vinyl chloride	<0.428	<0.428	<0.428	<0.428	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: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

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

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

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

Description: N/A

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

- ☐ Yes ☒ No

Description: N/A

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

Table 12 for Outfall No.: N/A

Samples are (check one): ☐ Composite ☐ Grab

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

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.: N/A

Samples are (check one): ☐ Composite ☐ Grab

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

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

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

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

☐ Yes ☒ No

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

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

- 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: 900 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:

- 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:

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

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

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

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

Date and time of observation:

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

☐ Yes ☐ No

If **yes**, describe how:

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	☐ urban runoff
☐ agricultural runoff	☐ septic tanks
☐ upstream discharges	☐ other, specify:

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

☐ livestock watering	☐ industrial water supply
☐ non-contact recreation	☐ irrigation withdrawal
☐ domestic water supply	☐ navigation
☐ contact recreation	☐ picnic/park activities
☐ fishing	☐ other, specify:

- 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 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:

3. The legal name of the owner of the drinking water supply intake: [Click to enter text.](#)

4. 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: 900 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:

- 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:

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

- ☐ Lake or Pond
- Surface area (acres): Click to enter text.
 - Average depth of the entire water body (feet): Click to enter text.
 - Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.
- ☒ Man-Made Channel or Ditch
- ☐ Stream or Creek
- ☐ Freshwater Swamp or Marsh
- ☐ Tidal Stream, Bayou, or Marsh
- ☐ Open Bay
- ☐ Other, specify:

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: Corpus Christi Inner Harbor – Segment No. 2484 of Bays and Estuaries

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

☒ Yes ☐ No

If **yes**, describe how: The drainage ditch flows into a tidally influenced ditch and then into Corpus Christi Inner Harbor less than 1 mile from the outfall.

- f. General observations of the water body during normal dry weather conditions: Dry
Date and time of observation: October 6, 2025 at 13:49 PM

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

☐ Yes ☒ No

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

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

☒ urban runoff

☐ agricultural runoff

☐ septic tanks

☒ upstream discharges

☒ other, specify: Stormwater runoff from various industrial areas.

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

☐ livestock watering

☐ industrial water supply

☐ non-contact recreation

☐ irrigation withdrawal

☐ domestic water supply

☒ navigation

☐ contact recreation

☐ picnic/park activities

☐ fishing

☒ other, specify: Drainage

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

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

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

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

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 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:

5. The legal name of the owner of the drinking water supply intake: [Click to enter text.](#)

6. 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: 900 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:

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

- ☐ Lake or Pond
- Surface area (acres): Click to enter text.
 - Average depth of the entire water body (feet): Click to enter text.
 - Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.
- ☒ Man-Made Channel or Ditch
- ☐ Stream or Creek
- ☐ Freshwater Swamp or Marsh
- ☐ Tidal Stream, Bayou, or Marsh
- ☐ Open Bay
- ☐ Other, specify:

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: Corpus Christi Inner Harbor – Segment No. 2484 of Bays and Estuaries

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

☒ Yes ☐ No

If **yes**, describe how: The drainage ditch flows into the Corpus Christi Inner Harbor less than 1 mile from the outfall.

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

Date and time of observation: October 6, 2025 at 13:37 PM

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

☐ Yes ☒ No

If **yes**, describe how: [Click to enter text.](#)

Item 5. General Characteristics of Water Body (Instructions, Page 81)

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

☐ oil field activities	☒ urban runoff
☐ agricultural runoff	☐ septic tanks
☒ upstream discharges	☒ other, specify: <u>Stormwater run-off from various industrial areas.</u>

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

☐ livestock watering	☐ industrial water supply
☐ non-contact recreation	☐ irrigation withdrawal
☐ domestic water supply	☒ navigation
☐ contact recreation	☐ picnic/park activities
☐ fishing	☒ other, specify: <u>Drainage</u>

- j. 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 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:

7. The legal name of the owner of the drinking water supply intake: [Click to enter text.](#)

8. 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: 900 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:

- 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:

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

- ☐ Lake or Pond
- Surface area (acres): Click to enter text.
 - Average depth of the entire water body (feet): Click to enter text.
 - Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.
- ☒ Man-Made Channel or Ditch
- ☐ Stream or Creek
- ☐ Freshwater Swamp or Marsh
- ☐ Tidal Stream, Bayou, or Marsh
- ☐ Open Bay
- ☐ Other, specify:

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: Corpus Christi Inner Harbor – Segment 2484 of Bays and Estuaries

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

☒ Yes ☐ No

If **yes**, describe how: The drainage ditch flows into the Corpus Christi Inner Harbor less than 1 mile from the outfall.

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

Date and time of observation: October 6, 2025 at 13:20 PM

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

☐ Yes ☒ No

If **yes**, describe how: [Click to enter text.](#)

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	☒ urban runoff
☐ agricultural runoff	☐ septic tanks
☒ upstream discharges	☒ other, specify: <u>Stormwater run-off from various industrial areas and process wastewater outfall from other industrial facilities.</u>

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

☐ livestock watering	☐ industrial water supply
☐ non-contact recreation	☐ irrigation withdrawal
☐ domestic water supply	☒ navigation
☐ contact recreation	☐ picnic/park activities
☐ fishing	☒ other, specify: <u>Drainage</u>

- 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 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:

9. The legal name of the owner of the drinking water supply intake: [Click to enter text.](#)

10. 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: 900 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:

- 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:

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

- ☐ Lake or Pond
- Surface area (acres): Click to enter text.
 - Average depth of the entire water body (feet): Click to enter text.
 - Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.
- ☒ Man-Made Channel or Ditch
- ☐ Stream or Creek
- ☐ Freshwater Swamp or Marsh
- ☐ Tidal Stream, Bayou, or Marsh
- ☐ Open Bay
- ☐ Other, specify:

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: Corpus Christi Inner Harbor – Segment No. 2484 of Bays and Estuaries

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

☒ Yes ☐ No

If **yes**, describe how: The drainage ditch flows into the Corpus Christi Inner Harbor less than 1 mile from the outfall.

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

Date and time of observation: October 6, 2025 at 13:56 PM

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

☐ Yes ☒ No

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

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	☒ urban runoff
☐ agricultural runoff	☐ septic tanks
☒ upstream discharges	☒ other, specify: <u>Stormwater run-off from various industrial areas and process wastewater outfall from other industrial facilities</u>

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

☐ livestock watering	☐ industrial water supply
☐ non-contact recreation	☐ irrigation withdrawal
☐ domestic water supply	☒ navigation
☐ contact recreation	☐ picnic/park activities
☐ fishing	☒ other, specify: <u>Drainage</u>

- 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
MSGP Outfalls*	☒	☐
002	☐	☒
003	☐	☒
005	☐	☒
	☐	☐
	☐	☐
	☐	☐
	☐	☐

*Multiple Outfalls from ancillary areas of the East Plant.

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: H

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)
002	41 acres	41 acres
003	30 acres	30 acres
004	44 acres	44 acres

Outfall	Area of Impervious Surface (include units)	Total Area Drained (include units)
005	49 acres	49 acres

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

Wettest month: September

Average rainfall for wettest month (total inches): 4.98

25-year, 24-hour rainfall (inches): 9.64

Source: U.S. Climate Data and NOAA

- c. Attach an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation. **Attachment:** G
- 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:** F
- e. Describe any BMPs and controls the facility uses/proposes to prevent or effectively reduce pollution in stormwater discharges from the facility: See Attachment F

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): 01/31/2025-07/31/2025
- b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.
- c. Complete Table 17 as directed on page 92 of the Instructions.

Table 17 for Outfall No.: 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)
pH (standard units) ¹	8.73	—	8.44	—	2	—
Total suspended solids	163		163		1	—
Chemical oxygen demand	18.0		18.0		1	—
Total organic carbon ²	8.42		7.38		2	—
Oil and grease ²	2.89		2.32		2	—
Arsenic, total	0.00462		0.00462		1	0.0005
Barium, total	0.140		0.140		1	0.003
Cadmium, total	0.000294		0.000294		1	0.001
Chromium, total	0.0126		0.0126		1	0.003
Chromium, trivalent	0.0126		0.0126		1	—
Chromium, hexavalent	<0.003		<0.003		1	0.003
Copper, total	0.0125		0.0125		1	0.002
Lead, total	0.0147		0.0147		1	0.0005
Mercury, total	<0.0000525		<0.0000525		1	0.000005
Nickel, total	0.00523		0.00523		1	0.002
Selenium, total	<0.000685		<0.000685		1	0.005
Silver, total	<0.000351		<0.000351		1	0.0005
Zinc, total	0.139		0.139		1	0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Notes: ¹Parameter results are based on March and June 2025 DMR data only.

²Parameter results are based on March and June 2025 DMR data and reported data from the June 2025 sampling event for the permit renewal application.

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

Table 18 for Outfall No.: N/A

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: N/A

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:

Date of storm event: [Click to enter text.](#)

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

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

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

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

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

Provide a description of the method of flow measurement or estimate:

Table 19 for Outfall No.: 003

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) ¹	7.83	—	7.3	—	2	—
Total suspended solids	54.5		54.5		1	—
Chemical oxygen demand					0	—
Total organic carbon ²	5.09		4.98		2	—
Oil and grease ²	2.89		2.27		2	—
Arsenic, total	0.00429		0.00429		1	0.0005
Barium, total	0.0737		0.0737		1	0.003
Cadmium, total	0.000290		0.000290		1	0.001
Chromium, total	0.00937		0.00937		1	0.003
Chromium, trivalent	0.00937		0.00937		1	—
Chromium, hexavalent	<0.003		<0.003		1	0.003
Copper, total	0.00632		0.00632		1	0.002
Lead, total	0.00382		0.00382		1	0.0005
Mercury, total	<0.0000525		<0.0000525		1	0.000005
Nickel, total	0.00198		0.00198		1	0.002
Selenium, total	0.00167		0.00167		1	0.005
Silver, total	<0.000351		<0.000351		1	0.0005
Zinc, total	0.0458		0.0458		1	0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Notes: ¹Parameter results are based on March and June 2025 DMR data only.

²Parameter results are based on March and June 2025 DMR data and reported data from the June 2025 sampling event for the permit renewal application.

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

Table 20 for Outfall No.: N/A

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: N/A

Item 7. 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:

Date of storm event: [Click to enter text.](#)

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

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

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

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

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

Provide a description of the method of flow measurement or estimate:

Table 21 for Outfall No.: **005**

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) ¹	8.4	—	7.52	—	4	—
Total suspended solids	3.80		2.4		2	—
Chemical oxygen demand	42.0		39.5		2	—
Total organic carbon ²	7.53		5.08		4	—
Oil and grease ²	3.56		2.26		4	—
Arsenic, total	0.00647		0.00489		2	0.0005
Barium, total	0.0186		0.0141		2	0.003
Cadmium, total	<0.000258		<0.000258		2	0.001
Chromium, total	0.00111		0.00385		3	0.003
Chromium, trivalent	<0.01		<0.01		3	—
Chromium, hexavalent	<0.01		<0.01		3	0.003
Copper, total	0.0113		0.0096		2	0.002
Lead, total	0.00327		0.0017		2	0.0005
Mercury, total	<0.0000525		<0.0000525		2	0.000005
Nickel, total	0.00429		0.00357		2	0.002
Selenium, total	0.00591		0.0045		2	0.005
Silver, total	<0.000351		<0.000351		2	0.0005
Zinc, total	0.00975		0.00942		2	0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Notes: ¹Parameter results are based on January, May, June, and July 2025 DMR data only.

²Parameter results are based on January, May, June, and July 2025 DMR data and reported data from the May 2025 sampling event for the permit renewal application.

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

Table 22 for Outfall No.: **005**

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
BOD, 5-day ¹	3.20		3.20		1
Ammonia as nitrogen	1.47		1.47		1
Total Cyanide	<0.00198		<0.00198		1
Sulfide	<2.00		<2.00		1

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Notes: ¹ Result for this parameter analyzed out of hold time.

Attachment: N/A

Item 8. 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:

Date of storm event: [Click to enter text.](#)

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

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

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

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

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

Provide a description of the method of flow measurement or estimate:

Attachment A

Payment Voucher

Administration Report 1.0 Pg. 3, 1.h.

Print this voucher for your records. If you are sending the TCEQ hardcopy documents related to this payment, include a copy of this voucher.

Transaction Information

Voucher Number: 785814
Trace Number: 582EA000687272
Date: 10/02/2025 09:45 AM
Payment Method: CC - Authorization 0000069903
Voucher Amount: \$2,000.00
Fee Type: WW PERMIT - MAJOR INDUSTRIAL FACILITY - RENEWAL
ePay Actor: MEAGAN MARQUARD
Actor Email: meagan.marquard@valero.com
IP: 170.111.3.179

Payment Contact Information

Name: MEAGAN MARQUARD
Company: VALERO REFINING
Address: 1147 CANTWELL LANE, CORPUS CHRISTI, TX 78407
Phone: 361-289-6000

Site Information

RN: RN100211663
Site Name: VALERO REFINING TEXAS LP
Site Location: VALERO REFINING COMPANY EAST PLANT

Customer Information

Customer Name: VALERO REFINING TEXAS LP
Customer Address: 1147 CANTWELL LANE, CORPUS CHRISTI, TX 78407

Other Information

Program Area ID: WQ0000465000
Comments: Permit Renewal Application: Texas Pollutant Discharge Elimination System Permit No. WQ0000465000; EPA ID: TX00006904

[Close](#)

Attachment B

Core Data Form

Administration Report 1.0 Pg. 4, 4.a.



TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
☐ New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
☒ Renewal (Core Data Form should be submitted with the renewal form)	☐ Other	
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 600127468		RN 100211663

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership ☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
Valero Refining - Texas, L.P.					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0800023619		17418349407		741834940	
11. Type of Customer:		☐ Corporation		☐ Individual	Partnership: ☐ General ☒ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship		☐ Other:	
12. Number of Employees				13. Independently Owned and Operated?	
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher				☒ Yes ☐ No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
☒ Owner ☐ Operator ☐ Owner & Operator ☐ Other: ☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant					
15. Mailing Address:	PO Box 9370				
	City	Corpus Christi	State	TX	ZIP 78469 ZIP + 4 9370
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	

18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)
(361) 289-6000		(361) 289-3126

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)								
☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information								
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
EAST PLANT								
23. Street Address of the Regulated Entity: (No PO Boxes)	1147 Cantwell Lane							
	City	Corpus Christi	State	TX	ZIP	78407	ZIP + 4	1705
24. County	Nueces							

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

25. Description to Physical Location:	Approximately 0.5 mile north of Interstate Highway 37, northwest of the City of Corpus Christi, Nueces City, Texas 78407							
26. Nearest City					State	Nearest ZIP Code		
Corpus Christi					TX	78407		
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>								
27. Latitude (N) In Decimal:						28. Longitude (W) In Decimal:		
Degrees	Minutes		Seconds		Degrees	Minutes		Seconds
27	48		25.96		-97	26		46.85
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)			32. Secondary NAICS Code (5 or 6 digits)		
2911	5157		32411			324110		
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Industrial Petroleum Refinery								
34. Mailing Address:	1147 Cantwell Lane							
	City	Corpus Christi	State	TX	ZIP	78407	ZIP + 4	1705
35. E-Mail Address:								
36. Telephone Number	37. Extension or Code				38. Fax Number (if applicable)			
(361) 289-6000					() -			

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

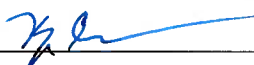
☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0000465000			

SECTION IV: Preparer Information

40. Name:	Bailey Sutherlin	41. Title:	Environmental Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(361) 299-3983		() -	bailey.sutherlin@valero.com

SECTION V: Authorized Signature

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

Company:	Valero Refining - Texas, L.P.	Job Title:	Vice President and General Manager
Name (In Print):	Kyle Sharon	Phone:	(361) 289- 6000
Signature:		Date:	10/8/2025

Attachment C

Plain Language Summary

Administration Report 1.0 Pg. 7, 9.f.



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

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.

Valero Refining – Texas, L.P. (CN600127468) operates Valero Refining Company East Plant (RN100211663), a petroleum refinery producing a full spectrum of petroleum products from crude oil. The facility is located at 1147 Cantwell Lane, east of Navigation Boulevard, and approximately 0.5 mile north of Interstate Highway 37, northwest of the City of Corpus Christi, Nueces County, Texas 78407. This application requests the renewal of TPDES Permit No. WQ0000465000 which authorizes an industrial wastewater discharge not to exceed a daily average of 3.0 million gallons per day (MGD) or daily maximum of 4.0 MGD via Outfall 001, an industrial wastewater discharge not to exceed a daily average dry-weather flow of 0.325 MGD via Outfall 004, and stormwater may be discharged through Outfalls 002, 003, and 005 on an intermittent and flow-variable basis. The permit also authorizes the waste streams monitored inside the facility (internal Outfalls 101 and 102) after the treatment system and prior to discharge via Outfall 001 and/or reuse.

Discharges from the facility are subject to federal effluent limitation guidelines at 40 CFR Part 419 Subpart B. The discharge from Outfall 001 and Outfall 101 are expected to contain biochemical oxygen demand, ammonia, temperature, chemical oxygen demand, total suspended solids, oil and grease, sulfide, phenolic compounds, and chromium (total and hexavalent). For Outfalls 002, 003, 004, and 005, discharges are expected to contain total organic carbon and oil and grease. Treated process wastewater, stormwater, and utility wastewaters, and miscellaneous wastewaters are discharged through Outfall 001.

Uncontaminated stormwater, steam, compressor, and external steam line condensates, utility wastewater, fire water flush waters, and hydrostatic test waters are discharged through Outfalls 002, 003, 004, and 005. Outfall 004 also authorizes the discharge of non-process utility wastewater. Wastewater is treated via the East Plant wastewater treatment system and is processed through API and CPI oil/water separators prior to collection in an equalization tank, and is then routed to dissolved nitrogen flotation units and a non-contact cooling unit prior to biological treatment in a waste activated sludge system with two parallel bioreactors and clarifiers. Sour water and benzene waste streams are collected separately and processed through a desalter and benzene stripper prior to the sludge dewatering system. Following thickening, sludges and float are processed through the coker unit. The treated effluent is monitored at Outfall 101 and can be discharged via Outfall 001 or routed to Outfall 102 for reuse or additional treatment via reverse osmosis prior to discharge through Outfall 001.

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.

Valero Refining – Texas, L.P. (CN600127468) opera la Planta Este de Valero Refining Company (RN100211663), una refinería de petróleo que produce un espectro completo de productos derivados del petróleo a partir de petróleo crudo. La instalación está ubicada en 1147 Cantwell Lane, al este de Navigation Boulevard, y aproximadamente a 0,5 millas al norte de la autopista interestatal 37, al noroeste de la ciudad de Corpus Christi, condado de Nueces, Texas 78407. Esta solicitud solicita la renovación del permiso TPDES No. WQ0000465000 que autoriza una descarga de aguas residuales industriales que no exceda un promedio diario de 3.0 millones de galones por día (MGD) o un máximo diario de 4.0 MGD a través del emisario 001, una descarga de aguas residuales industriales que no exceda un caudal promedio diario en clima seco de 0.325 MGD a través del emisario 004, y las aguas pluviales pueden descargarse a través de los emisarios 002, 003 y 005 de forma intermitente y con caudal variable. El permiso también autoriza los flujos de residuos monitoreados dentro de las instalaciones (emisarios internos 101 y 102) después del sistema de tratamiento y antes de su descarga a través del emisario 001 o su reutilización.

Las descargas de las instalaciones están sujetas a las directrices federales de limitación de efluentes del Título 40 del Código de Reglamentos Federales (CFR), Parte 419, Subparte B. Se espera que las descargas de los emisarios 001 y 101 contengan demanda bioquímica de oxígeno, amoníaco, temperatura, demanda química de oxígeno, sólidos suspendidos totales, aceite y grasa, sulfuro, compuestos fenólicos y cromo (total y hexavalente). En el caso de los emisarios 002, 003, 004 y 005, se espera que las descargas contengan carbono orgánico total, aceite y grasa. Las aguas residuales de proceso tratadas, las aguas pluviales, las aguas residuales de servicios públicos y otras aguas residuales se descargan a través del emisario 001. Las aguas pluviales no contaminadas, el vapor, los condensados de compresores y líneas de vapor externas, las aguas residuales de servicios públicos, las aguas de lavado con agua contra incendios y las aguas de pruebas hidrostáticas se descargan a través de los emisarios 002, 003, 004 y 005. El emisario 004 también autoriza la descarga de aguas residuales de servicios públicos no procesadas. Las aguas residuales se tratan a través del sistema de tratamiento de aguas residuales de la Planta Este y se procesan a través de separadores de aceite/agua API y CPI antes de su recolección en un tanque de ecualización, y luego se dirigen a unidades de flotación de nitrógeno disuelto y a una unidad de enfriamiento sin contacto antes del tratamiento biológico en un sistema de lodos activados residuales con dos biorreactores y clarificadores paralelos. Las corrientes de agua ácida y benceno residuales se recolectan por separado y se procesan a través de un desalinizador y un separador de benceno antes del sistema de deshidratación de lodos. Tras el espesamiento, los lodos y el flotador se procesan en la unidad de coquización. El efluente tratado se monitoriza en el emisario 101 y puede descargarse por el emisario 001 o dirigirse al emisario 102 para su reutilización o tratamiento adicional por ósmosis inversa antes de su descarga por el emisario 001.

Attachment D

USGS Topographic Map

Administration Report 1.0 Pg. 8, 11.b.



LEGEND

- Valero Facility Boundary
- One Mile Radius
- Outfall Locations
- Upstream/Downstream Markers
- Discharge

Basemap Source: US Topo 7.5 Minute map for Corpus Christi, TX. 2022



0 1,500 3,000
Feet

VALERO REFINING - TEXAS, L.P.
EAST PLANT REFINERY
CORPUS CHRISTI, TEXAS

ATTACHMENT D
USGS MAP



Project 2500415

4601 DTC Blvd Suite 325
Denver, CO, 80237

June 2025

Attachment E

Supplemental Permit Information Form (SPIF)

SPIF Pg. 14.

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: Valero Refining – Texas, L.P.

Permit No. WQ00 00465000EPA ID No. TX 00006904

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

1147 Cantwell Lane, Corpus Christi, Texas 78407 Nueces County

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: Sutherlin, Bailey

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

Title: Environmental Engineer

Mailing Address: 1147 Cantwell Lane

City, State, Zip Code: Corpus Christi, TX, 78469

Phone No.: 361-299-3983 Ext.:

Fax No.:

E-mail Address: bailey.sutherlin@valero.com

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

N/A

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

Via Outfall 001 directly to Corpus Christi Inner Harbor; and via Outfalls 002, 003, 004, and 005 to a series of unnamed ditches, thence to an unnamed tidal ditch, thence to Corpus Christi Inner Harbor in Segment No. 2484 of the Bays and Estuaries

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

Attachment: E

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

Attachment: N/A

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

- ☐ Proposed access roads, utility lines, construction easements
- ☐ Visual effects that could damage or detract from a historic property's integrity
- ☐ Vibration effects during construction or as a result of project design

- ☐ Additional phases of development that are planned for the future
- ☐ Sealing caves, fractures, sinkholes, other karst features
- ☐ Disturbance of vegetation or wetlands

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:

N/A

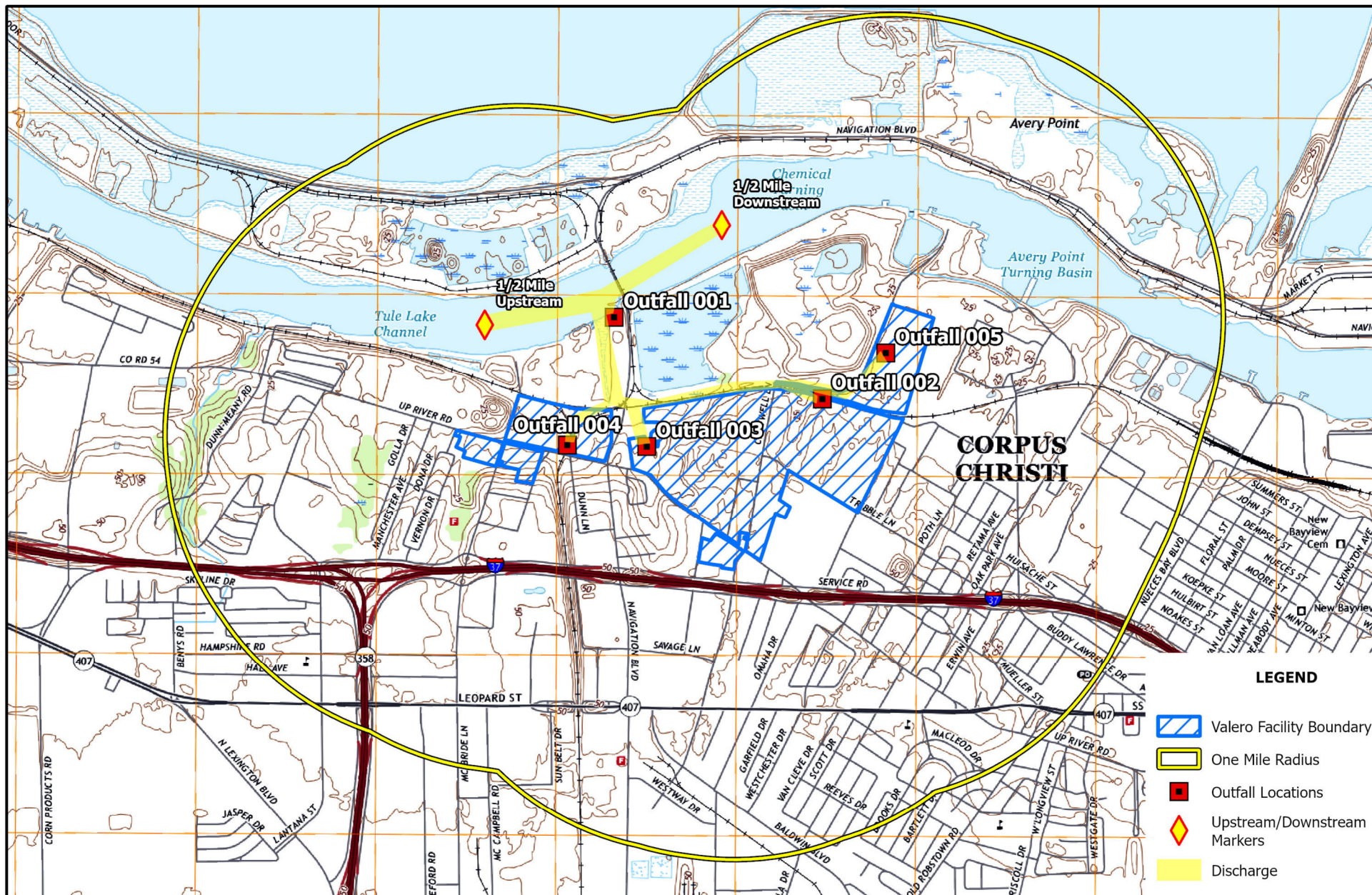
THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

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

N/A

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

N/A



Attachment F

Facility Description

Technical Report 1.0 Pg. 1, 1.a and b
Technical Report 1.0 Pg. 3, 2.a
Technical Report 1.0 Pg. 7, 4
Technical Report 1.0 Pg. 8, 6
Technical Report 1.0 Pg. 10, 10.b
Worksheet 1.0 Pg. 18, 3
Worksheet 7.0 Pg. 59, 4.d
Worksheet 7.0 Pg. 59, 4.e

Attachment F

Facility Description

The Valero Refining – Texas, L.P. Corpus Christi Refineries - East Plant (Valero) is a fully integrated petroleum refinery with the units necessary to produce a full spectrum of petroleum products from crude oil. The refinery was originally constructed in the late 1930s by the federal government and has been in almost continuous operation since that time. Valero took over ownership of the East Plant in 2001.

Valero's East Plant is located at 27°40'00" latitude and 97°26'40" longitude on the south shore of the Corpus Christi Inner Harbor, approximately 2.5 miles west of the Corpus Christi Harbor Bridge. Refinery units and storage tanks are located along Up River Road between Interstate Highway 37 and McBride Lane. Administrative buildings for the facility are located 1147 Cantwell Lane. The Refinery also utilizes Dock 6, located at the north end of McBride Lane, and Docks 3, 4, 7, and 11 at the north end of Cantwell Lane. Docks 3, 4, 7, and 11 are public docks which are owned by the Port of Corpus Christi. As public docks, these docks are also utilized by other companies.

The East Plant is comprised of three facilities: Complex 7, Complex 8, and Complex 8Q. Entrance gates and associated facilities are located at each Complex. Complex 8 is divided into two sections, which are designated as Complex 8-North and Complex 8-South. Each section of Complex 8 contains processing units, product storage facilities, and rail and truck loading facilities. Complex 7 contains processing facilities, crude and product storage, wastewater treatment units, and a closed landfill.

Complex 8Q was originally constructed in the mid-1960's and was acquired by Coastal Refining & Marketing, the owner prior to Valero, in 1984. Complex 8Q is located along Up River Road between Navigation Boulevard and McBride Lane. It includes processing areas and tank farms.

A significant capital improvement program was initiated in 1993. The delayed coking unit was expanded and a new sulfur recovery unit (SRU) was built. These projects were completed in 1995 and 1996. Currently, the refinery has a crude processing capacity approaching 110,000 BPD depending on the crude oil charged. Historically, the refinery has received crude oil, and ethanol as raw materials and has produced a variety of petroleum products, including propane, butane, gasoline, kerosene, diesel, jet fuel, benzene, toluene, decanted oil, turbine fuel, gas oil, No. 6 fuel oil, sulfur, petroleum coke, and No. 2 fuel oil.

A new Ultra Low Sulfur Diesel unit and a Steam Methane Reforming unit were constructed and were started up at the end of 2007.

Wastewater Generation

The primary waste streams generated at the refinery are process wastewater and contaminated stormwater run-off, which are subject to Subpart B – Cracking Subcategory of the petroleum refinery effluent guideline limitations promulgated under 40 Code of Federal Regulations (CFR) Part 419. The first flush of stormwater run-off from all production units is considered contaminated run-off and is routed to the wastewater treatment system.

In addition to process wastewater and contaminated stormwater, there are a number of additional waste streams that are or may be routed to Outfall 001:

- Boiler blowdown;
- Cooling tower blowdown;
- RO reject water and demineralizer water;
- Recovered ground water;
- Miscellaneous wastewaters.

Miscellaneous wastewaters include the following types of flows:

- Drainage and spillage from the ship docks and truck and railcar loading racks;
- Hydrostatic test waters, including that from tanks and pipelines;
- Steam condensate;
- Heat exchanger bundle cleaning wastewater;
- Waterline and fire protection system flushing;
- Water from the washing of process units, pavement, buildings, equipment, and vehicles;
- Stormwater run-off from non-process areas;
- Wastewater from sludge treatment units;
- Remediation clean-up liquids;
- Tank draws and tank water bottoms;
- Laboratory wastes;
- Stormwater from offsite terminals and pumping stations; and
- Air conditioner condensate, compressor condensate, and condensate that forms externally on steam lines

Most domestic sewage is routed to the City of Corpus sanitary sewer system. The wastewater treatment plant for Complex 7 is equipped with its own septic system.

Wastewater from associated pumping stations and terminals is periodically accepted for treatment in the refinery's wastewater treatment system. This typically involves relatively small quantities of stormwater, tank draws, spill clean-ups, and hydrostatic test waters which may have come in contact with hydrocarbons. All offsite wastewaters

accepted for treatment will be similar in quality to the wastewater generated at the refinery and the volumes will not significantly affect the overall flow rate at the treatment system.

It is also possible that wastewater and stormwater generated by 3rd parties can be received from the docks. The docks are utilized by multiple parties, but the dock sumps are pumped back to the East Plant treatment system. These sumps can receive stormwater run-off from the docks and from pipeline right-of-ways leading to the docks. There is a potential for non-stormwater flows, such as spill or remediation residues, to be present in the stormwater pumped back from the docks.

The following waste streams are routed through Outfalls 002, 003, 004, and 005:

- Stormwater from non-process areas;
- Uncontaminated utility flows and fire water;
- Hydrostatic test waters, including that from tanks and pipelines;
- Steam condensate; and
- Air conditioner condensate, compressor condensate, and condensate that forms externally on steam lines.

Wastewater Treatment System

The East Plant wastewater treatment system was originally constructed in 1971 and then underwent a significant upgrade in 1994, which included construction of several parallel treatment units. Another project to upgrade the treatment plant was completed in 2012. Process wastewater and run-off from production areas are collected in oily water sewers. Process flows from the Complex 8 North, Complex 8 North Tank Farms, Complex 8Q, and Complex 7 are presently routed to the Complex 8 corrugated plate interceptors (CPI) for oil removal. From the CPIs, these flows are then combined with effluent from the benzene stripper at the Feed Sump. From the Feed Sump, the primary flow is then to the Complex 7 Interceptor Pit. From the Complex 7 Interceptor Pit, the

wastewater will be pumped to the wastewater treatment plant's equalization tank (Tank 74). Tank 109 formerly served as the equalization tank; however, it presently serves as a surge tank. Process flows from Complex 8Q and Complex 7 are proposed to be rerouted directly to the Complex 7 Interceptor Pit for oil recovery and biological treatment in the wastewater treatment plant. Process flows from Complex 8 North and Complex 8 North Tank Farms will continue to be routed to the Complex 8 CPI for oil recovery and eventual biological treatment at the wastewater treater. See Proposed Flow Schematic in Attachment I.

After equalization, wastewater is routed to API separators and then to dissolved nitrogen flotation (DNF) units. The DNF effluent is then sent to an enclosed, non-contact cooling unit which lowers the wastewater temperature to that optimum for biological treatment. After cooling, the wastewater undergoes biological treatment in a waste activated sludge system. There are two bioreactors and two clarifiers which are operated in parallel.

The East Plant has separate collection systems for sour water and high concentration benzene waste streams. Effluent from the sour water stripper is sent to the desalter as make-up water. Sour water stripper effluent not used as desalter make-up water is routed to the Complex 7 Interceptor Pit. Effluent from the desalter is routed directly to the benzene stripper. Most benzene streams are routed to Tank 2, which serves as an equalization/storage tank for the benzene stripper. Desalter effluent bypasses Tank 2 and goes directly to the stripper. Miscellaneous benzene streams, including ballast water, tank bottoms, recovered groundwater, and water from the slop oil recovery system are collected in Tank 19. Tank 19 is operated as an oil/water separator with recovered oil returned to the refinery for re-processing. Water from Tank 19 is pumped to Tank 2 as capacity becomes available. Tank 9 is used as additional benzene wastewater storage if Tank 2 is full or out of service. The sludge dewatering system for the wastewater treatment system consists of a thickener and a series of sludge holding tanks. After thickening, sludges and float are pumped to the coker unit for processing.

Attachment G

Materials List

Technical Report 1.0 Pg. 2, 1.c
Worksheet 7.0 Pg. 59, 4.c

Attachment G

Raw Materials and Products

Raw Materials	Intermediates	Final Products
Crude Oil CAS #: N/A	Gasoline Components CAS #: N/A	Propane CAS #: 74-98-6
Isobutane CAS #: 75-28-5	Butane CAS #: 106-97-8	Butane CAS #: 106-97-8
Gas Oil CAS #: N/A	Pentane CAS #: 109-66-0	Gasoline CAS #: 68606-11-1
Toluene CAS #: 108-88-3	Isobutylene CAS #: 115-11-7	Kerosene CAS #: 64742-81-0
Naphtha CAS #: 8030-30-6		Diesel Fuel CAS #: 68334-30-5
Propylene CAS #: 115-07-1		Jet Fuel CAS #: 94114-58-6
Ethanol CAS #: 64-17-5		Benzene CAS #: 71-43-2
		Toluene CAS #: 108-88-3
		Decanted Oil CAS #: N/A
		Turbine Fuel CAS #: N/A
		No. 6 Fuel Oil CAS #: 68553-00-4
		Sulfur CAS #: 7704-34-9
		Petroleum Coke CAS #: N/A
		No. 2 Fuel Oil CAS #: 68476-30-2

Attachment H

Facility Maps

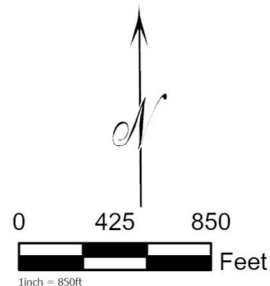
Technical Report 1.0 Pg. 2, 1.d
Worksheet 7.0 Pg. 58, 3



Maxar, Microsoft, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

LEGEND

-  Valero Facility Boundary
-  Outfall Locations



VALERO REFINING - TEXAS, L.P.
EAST PLANT REFINERY
CORPUS CHRISTI, TEXAS

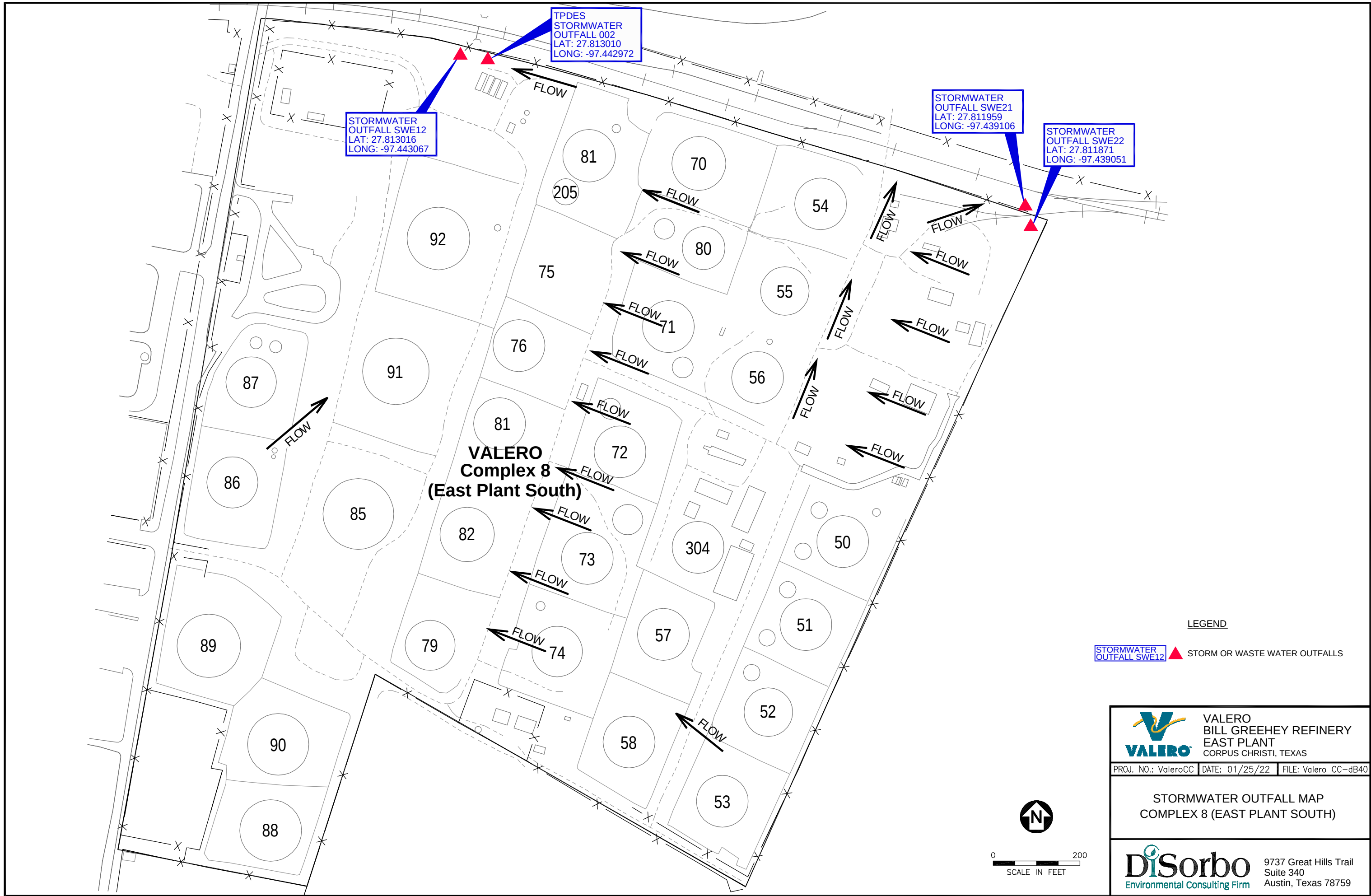
ATTACHMENT H FACILITY MAP



4601 DTC Blvd Suite 325
Denver, CO, 80237

Project 2500415

June 2025



LEGEND

STORMWATER OUTFALL SWE12 ▲ STORM OR WASTE WATER OUTFALLS



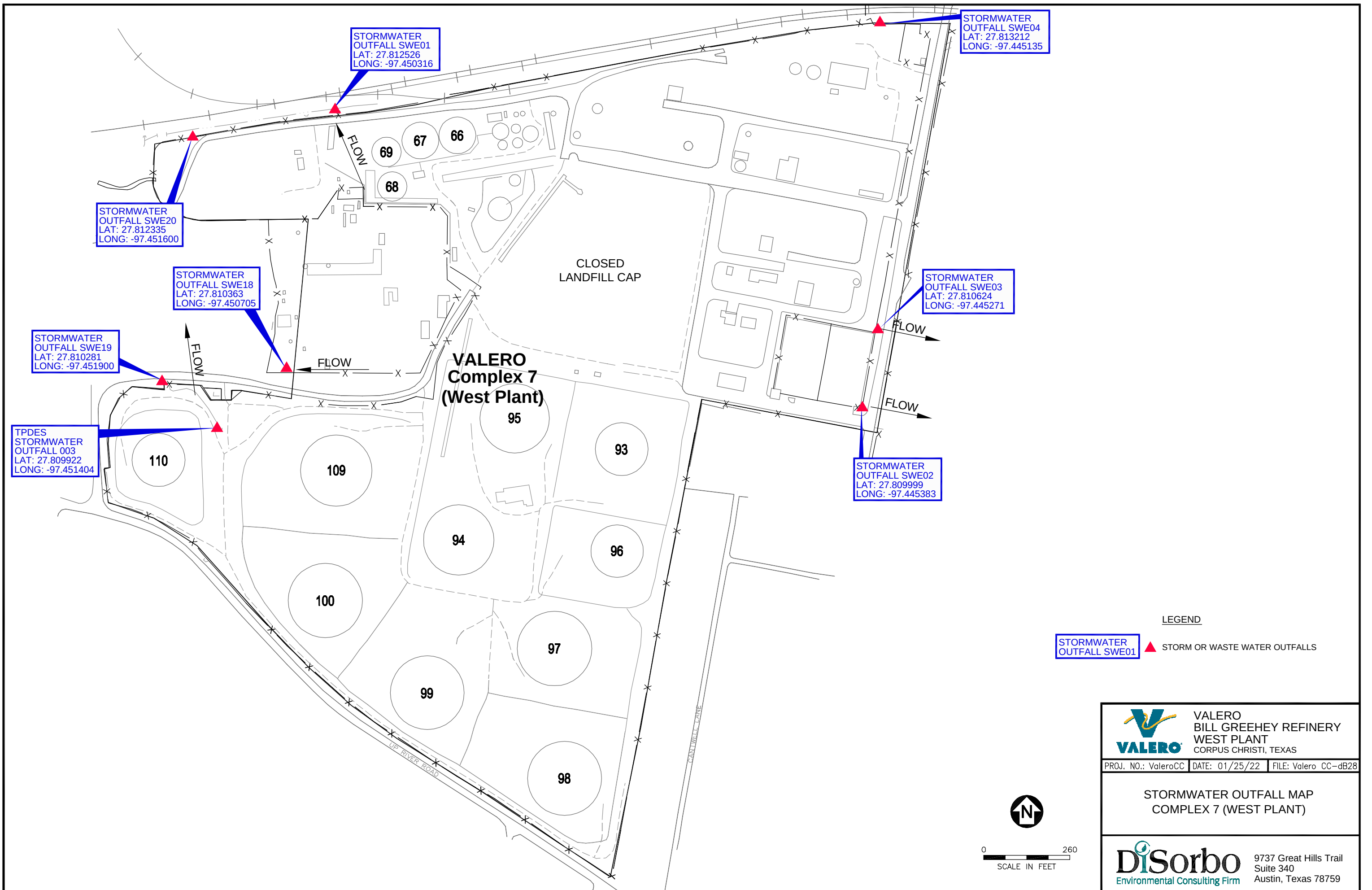
VALERO
BILL GREEHEY REFINERY
EAST PLANT
CORPUS CHRISTI, TEXAS

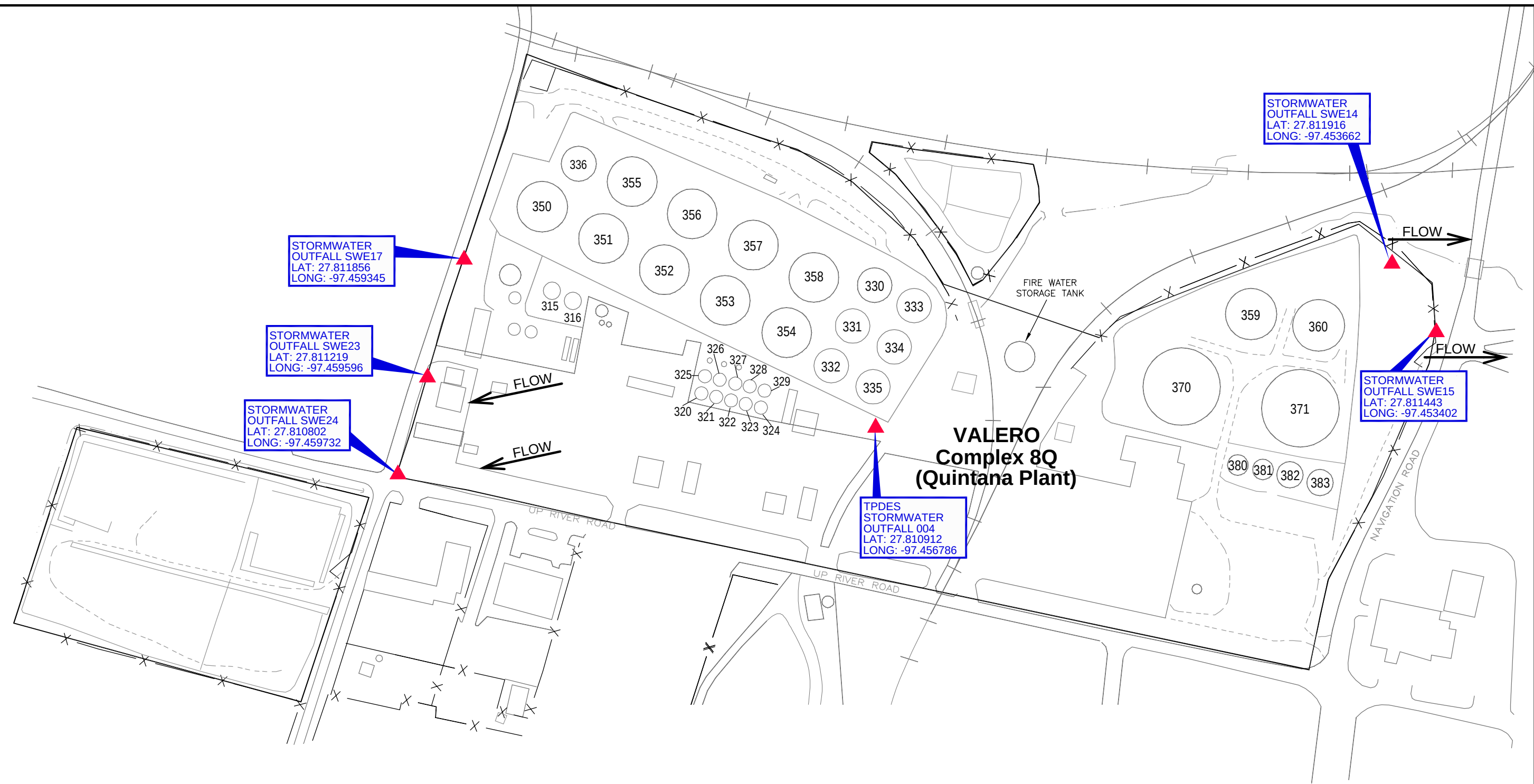
PROJ. NO.: ValeroCC | DATE: 01/25/22 | FILE: Valero_CC-dB40

STORMWATER OUTFALL MAP
COMPLEX 8 (EAST PLANT SOUTH)



9737 Great Hills Trail
Suite 340
Austin, Texas 78759





STORMWATER
OUTFALL SWE17
LAT: 27.811856
LONG: -97.459345

STORMWATER
OUTFALL SWE23
LAT: 27.811219
LONG: -97.459596

STORMWATER
OUTFALL SWE24
LAT: 27.810802
LONG: -97.459732

TPDES
STORMWATER
OUTFALL 004
LAT: 27.810912
LONG: -97.456786

STORMWATER
OUTFALL SWE14
LAT: 27.811916
LONG: -97.453662

STORMWATER
OUTFALL SWE15
LAT: 27.811443
LONG: -97.453402

**VALERO
Complex 8Q
(Quintana Plant)**

LEGEND

STORMWATER
OUTFALL SWE14

▲ STORM OR WASTE WATER OUTFALLS



0 200
SCALE IN FEET



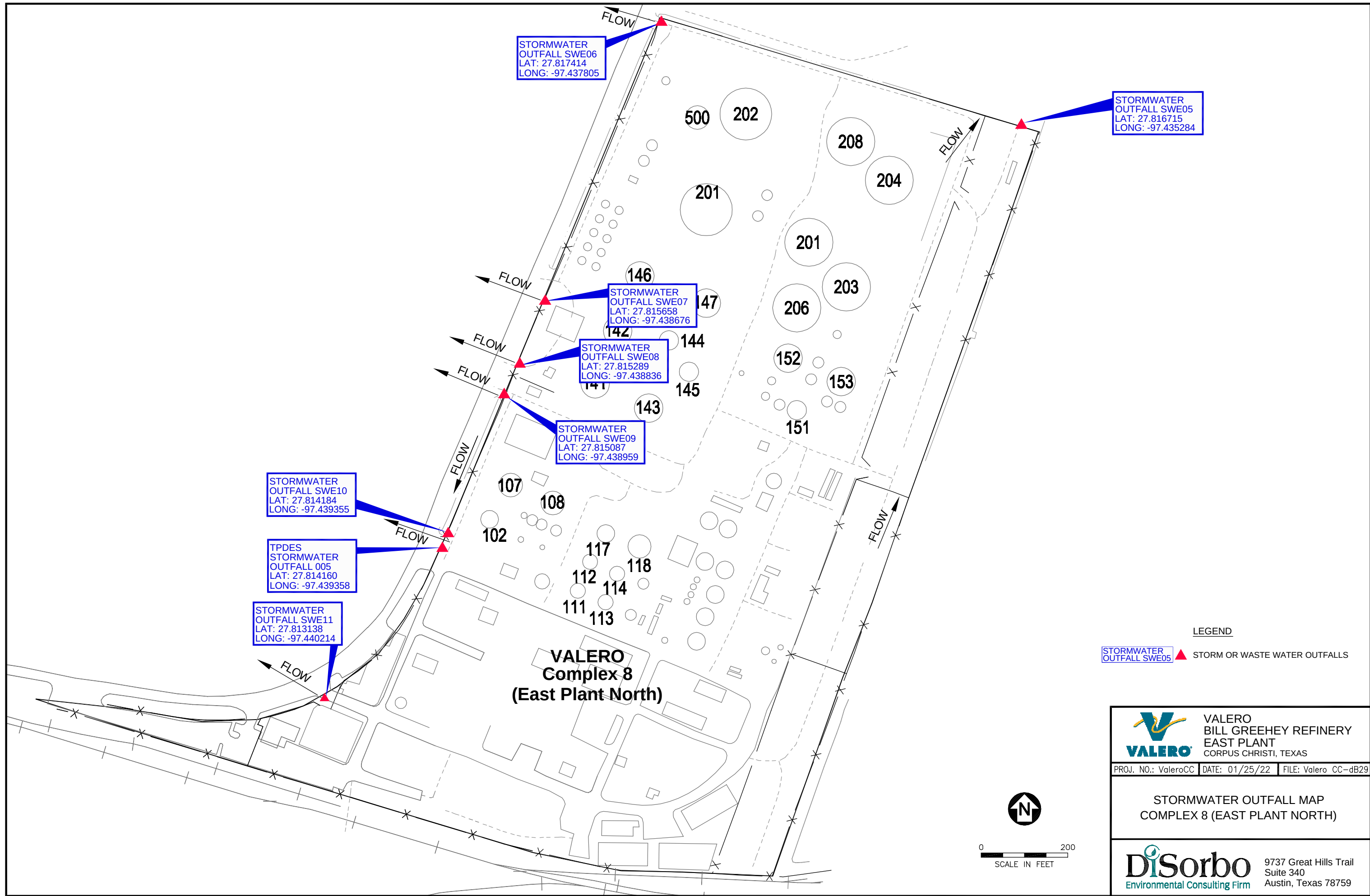
VALERO
BILL GREEHEY REFINERY
EAST PLANT
CORPUS CHRISTI, TEXAS

PROJ. NO.: ValeroCC | DATE: 01/25/22 | FILE: Valero CC-dB39

**STORMWATER OUTFALL MAP
COMPLEX 8Q (QUINTANA PLANT)**



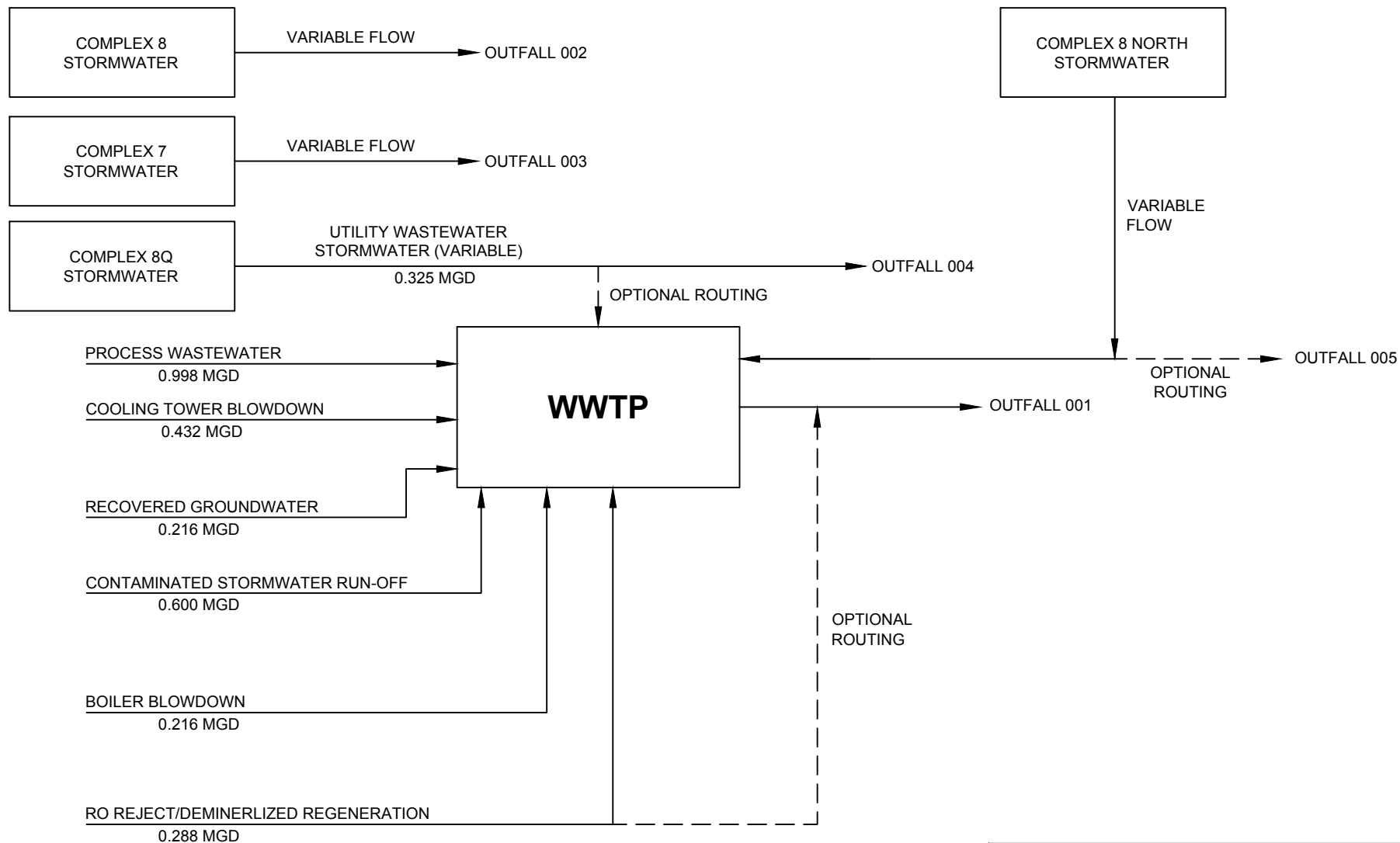
9737 Great Hills Trail
Suite 340
Austin, Texas 78759



Attachment I

Flow Schematic Diagrams

Technical Report 1.0 Pg. 3, 2.b



NOTE:

1. FLOWS ARE BASED ON LONG-TERM AVERAGES
2. RO REJECT STREAM WILL BE GENERATED BY A NEW PROJECT AND FLOW RATE IS BASED DESIGN ESTIMATES
3. BOILER BLOWDOWN FLOW IS EXPECTED TO BE REDUCED TO 0.036 MGD ONCE NEW RO UNIT IS OPERATIONAL.

LEGEND

————— NORMAL ROUTING
 - - - - - ALTERNATE ROUTING

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 EAST PLANT REFINERY
 CORPUS CHRISTI, TEXAS**

**ATTACHMENT I
 WATER BALANCE**

DRAWN BY: SSWILSON	SCALE: not to scale	PROJ. EPLANT
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APPROVED BY: _____	DATE PRINTED: _____	
DATE: April 29, 2014		

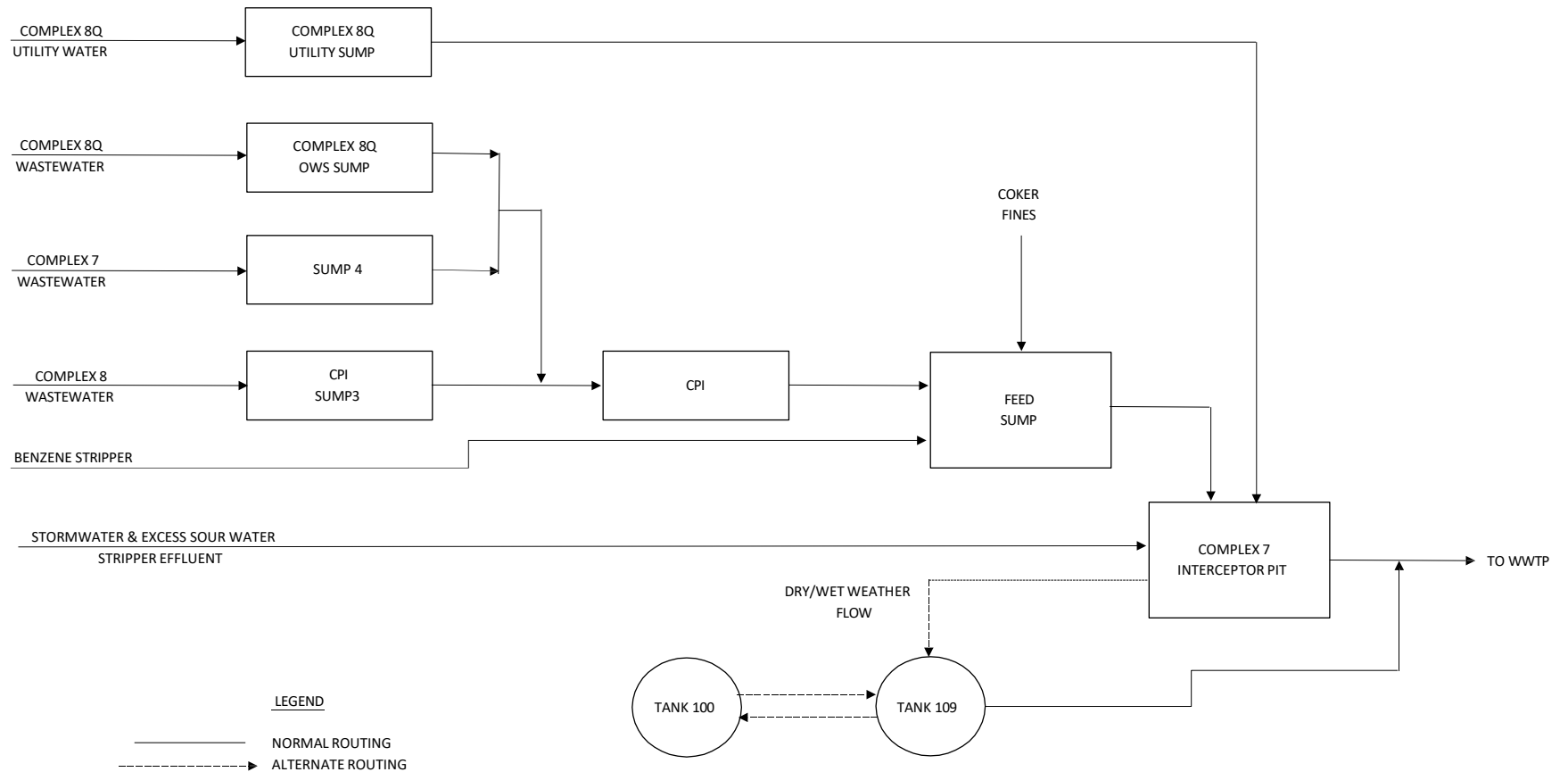
DiSorbo
 Environmental Consulting Firm

Cielo Centre, Building III, Suite 200
 1250 Capital of Texas Highway, South
 Austin, Texas 78746
 512-347-7588

4180 Delaware Street, Suite 402
 Beaumont, Texas 77706
 409-838-4400

VALERO REFINING - TEXAS, L.P. EAST PLANT REFINERY CORPUS CHRISTI, TEXAS			
ATTACHMENT I BENZENE AND SOUR WATER STRIPPERS			
DRAWN BY:	SSWILSON	SCALE:	PROJ.
CHECKED BY:	J AS	not to scale	EPLANT
APPROVED BY:	—	DATE PRINTED:	FILE NO.
DATE:	2/26/03, 2/27/04		

Current Flow Schematic



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CORPUS CHRISTI, TEXAS**

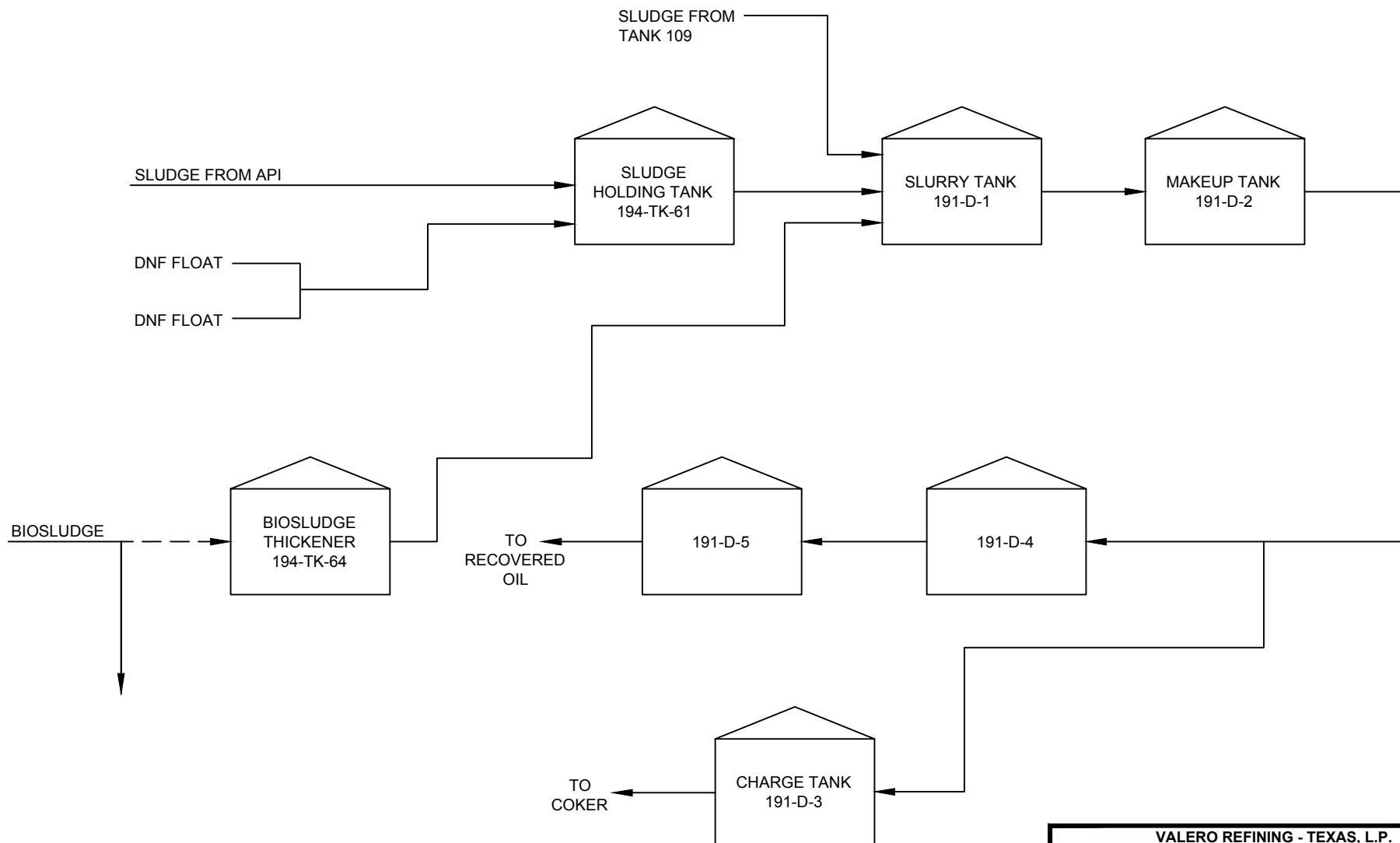
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CURRENT FLOW SCHEMATIC**

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CHECKED BY: J AS		FILE NO. 2019-0000000000
APPROVED BY: _____	DATE PRINTED:	
DATE: 2019 Apr 26, 2014		

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Beaumont, Texas 77706
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EAST PLANT REFINERY
CORPUS CHRISTI, TEXAS**

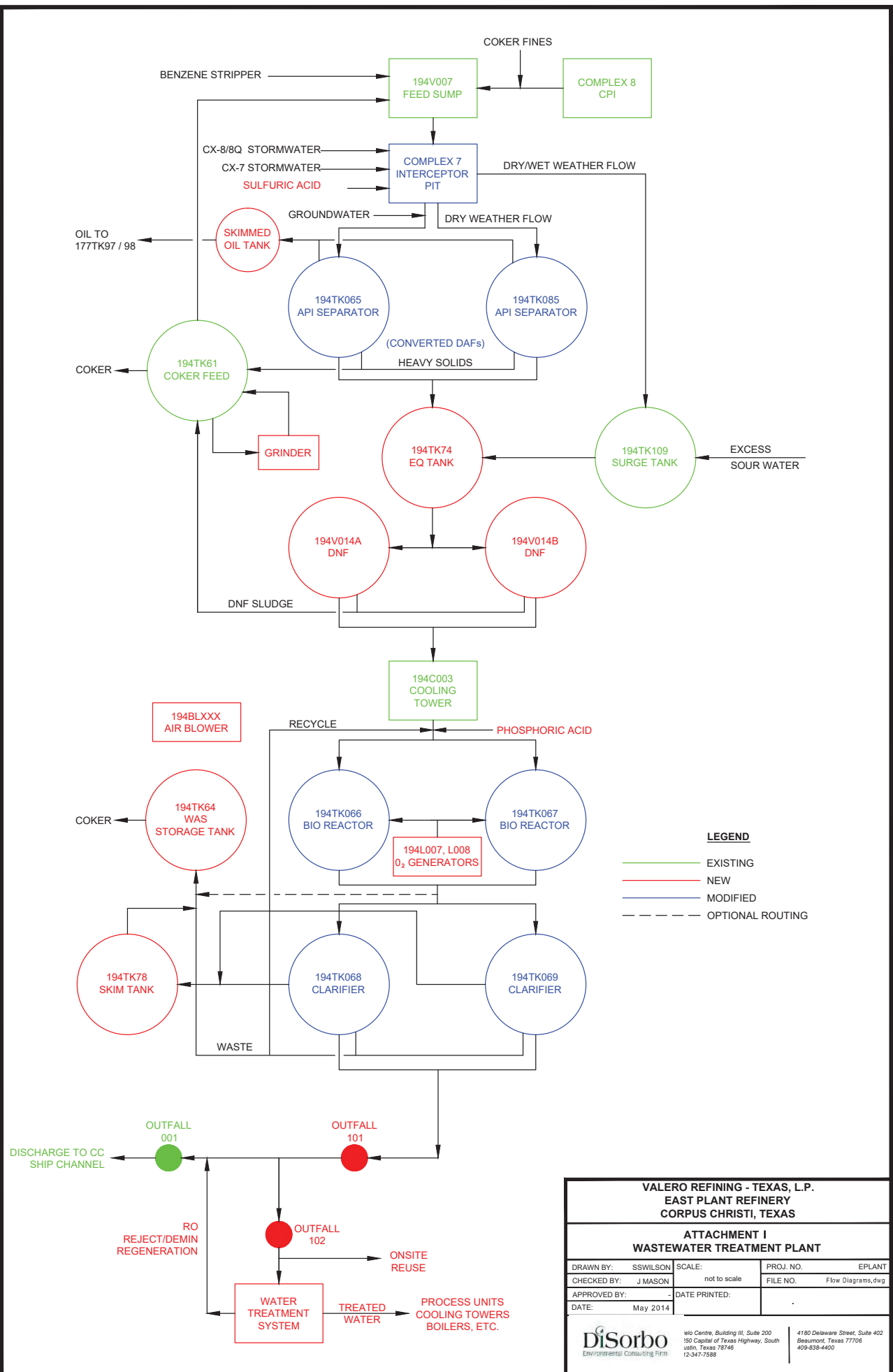
**ATTACHMENT K
SLUDGE PROCESSING**

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CHECKED BY: J SالدINER	DATE PRINTED:	FILE NO. Flow Diagrams.dwg
APPROVED BY:	DATE: April 29, 2014	

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Austin, Texas 78746
512-347-7588

4180 Delaware Street, Suite 402
Beaumont, Texas 77706
409-838-4400



VALERO REFINING - TEXAS, L.P. EAST PLANT REFINERY CORPUS CHRISTI, TEXAS			
ATTACHMENT I WASTEWATER TREATMENT PLANT			
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CHECKED BY: J MASON	DATE PRINTED:	FILE NO.	Flow Diagrams.dwg
APPROVED BY:	DATE: May 2014		
		150 Capital of Texas Highway, Suite 200 Houston, Texas 77066 281-447-7588	
		4180 Delaware Street, Suite 402 Beaumont, Texas 77706 409-838-4400	

Attachment J

Wastestream Contributions

Technical Report 1.0 Pg. 7, 4

Outfall Wastestream Contributions

Outfall No. **004**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Utility flows*	0.325	100
Stormwater	Variable	--
Fire water flush waters	Variable	--
Steam condensate	Variable	--
Hydrostatic test water	Variable	--
Compressor condensate	Variable	--
External steam line condensate	Variable	--
*Normal dry weather flows		

Outfall No. **005**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Stormwater run-off	Variable	--
Steam condensate	Variable	--
Compressor condensate	Variable	--
External steam line condensate	Variable	--
Uncontaminated utility wastewater	Variable	--
Fire water flush waters	Variable	--
Hydrostatic test water	Variable	--

Outfall No. **Click to enter text.**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow

Attachment: Click to enter text.

Attachment K

Summary Table and Safety Data Sheets

Technical Report 1.0 Pg. 8, 5.b

**Attachment K
SDS Information**

Manufacturer Name	Baker Hughes BPB59490	Baker Hughes BPB55608	Baker Hughes BPB59316	Baker Hughes BPC67015	Baker Hughes BPC68156	Baker Hughes DMT980T
Product Use	East Plant Boilers - Corrosion Inhibitor	East Plant Boilers - Oxygen Scavenger	East Plant Boilers - Scale Inhibitor	East Plant Cooling Towers - Corrosion Inhibitor	East Plant Cooling Towers - Corrosion Inhibitor	East Plant Cooling Towers - Scale Inhibitor
Chemical composition including CASRN for each ingredient	Morpholine - 20-30%, 110-91-8; Diethylethanolamine - 20-30%, 100-37-8; Cyclohexylamine - 20-30%, 108-91-8	Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt) - 30-40%, 7631-90-5	Sodium Molybdate - 1-5%, 7631-95-0; Sodium Hydroxide - 1-5%, 1310-73-2	No data available	Halogenated derivative of heterocyclic compound - 10-20%, Trade Secret; Modified arylamine - 0.1-1%, Trade Secret; Sodium hydroxide - 0.1-1%, 1310-73-2	Organic phosphonate - 5-10%, 2809-21-4; Sodium aryl sulfonate - 1-5%, 119345-04-9
Classify product as non-persistent, persistent, or bioaccumulative	Bioaccumulative potential: Diethylhydroxylamine - LogPow: -0.17, BCF: N/A, Potential: Low; Hydroquinone - LogPow: 0.59, BCF: 3.162, Potential: Low	No data available	No data available	No data available	No data available	Bioaccumulative potential: Organic phosphonate - LogPow: -3.5, BCF: 71, Potential: Low; Sodium aryl sulfonate - LogPow: -2.68, BCF: N/A, Potential: Low
Product or active ingredient half-life	No data available	No data available	No data available	No data available	No data available	No data available
Product toxicity data specific to fish and aquatic invertebrate organisms	BPB69396 Oxygen Scavenger - Acute EC50 3.19 mg/L, Daphnia, 48 hours; Acute EC50 1.96 mg/L, Daphnia, 48 hours; Acute LC50 1.06 mg/L, Fish, 96 hours Hydroquinone - Acute LC50 162 ug/L Fresh Water, Daphnia (<i>Daphnia pulicaria</i>), 48 hours; Acute LC50 44 ug/L Fresh Water, Fish (<i>Oncorhynchus mykiss</i>), 96 hours	Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt) - Acute EC50 140 mg/L Fresh Water, Daphnia (<i>Daphnia magna Neonate</i>), 48 hours; Acute LC50 1.94 ppm Fresh Water, Crustaceans (<i>Ceriodaphnia dubia</i>), 48 hours; Acute LC50 26.2 ppm Fresh Water, Fish (<i>Pimephales promelas</i>), 96 hours	BPB59316 SCALE INHIBITOR - Acute EC50 890.9 ppm, Daphnia, 48 hour; Acute LC50 3317.71 ppm, Fish, 96 hours Sodium Molybdate - Acute EC50 40.19 mg/L Fresh Water, Crustaceans (<i>Cypris subglobosa</i>), 48 hours; Acute LC50 2847.5 mg/L Fresh Water, Daphnia (<i>Daphnia magna</i> - <i>Neonate</i>), 48 hours; Acute LC50 79800 ug/L Marine Water, Fish (<i>Morone saxatilis</i>), 96 hours; Chronic NOEC 50 mg/L Fresh Water, Fish (<i>Oncorhynchus clarkii</i> - <i>Embryo</i>), 30 days; Sodium hydroxide - Acute EC50 40.38 mg/L Fresh Water, Crustaceans (<i>Ceriodaphnia dubia</i> - <i>Neonate</i>), 48 hours; Acute LC50 125 ppm Fresh Water, Fish (<i>Gambusia affinis</i> - <i>Adult</i>), 96 hours	BPC67015 Corrosion Inhibitor - Acute EC50 1708 mg/L, Daphnia, 48 hours; Acute EC50 224 ppm, Daphnia, 48 hours; Acute EC50 , 5657 mg/L, Fish, 48 hours; Acute LC50 >1000 ppm, Fish, 96 hours	Sodium Hydroxide - Acute EC50 40.38 mg/L Fresh Water, Crustaceans (<i>Ceriodaphnia dubia</i> - <i>Neonate</i>), 48 hours; Acute LC50 125 ppm Fresh Water, Fish (<i>Gambusia affinis</i> - <i>Adult</i>), 96 hours BPC68156 Corrosion Inhibitor - LC50 65.98 mg/L, Fish (<i>Pimephales minnow</i>), 96 hours; Acute EC50 88.77 mg/L, Crustaceans (<i>Ceriodaphnia daphnia</i>), 48 hours	No data available
Frequency of product use. (GPD)	1.0-6.0	0.5-5.0	0.5-8.0	3.0-12.0	2.0-7.0	5.0-15

**Attachment K
SDS Information**

Manufacturer Name	Baker Hughes BPC68915	Baker Hughes BPC68970	Baker Hughes BPC67275	Baker Hughes BPC67390	Baker Hughes BPW76910
Product Use	East Plant Cooling Towers - Microbiocide	East Plant Cooling Towers - Microbiocide	East Plant Cooling Towers - Antifoam	East Plant Cooling Towers - Water Additive East Plant Wastewater - Water Additive	East Plant Wastewater - Antifoam
Chemical composition including CASRN for each ingredient	Magnesium nitrate - 1-5%, 10377-60-3; 5-chloro-2-methyl-4-isothiazolin-3-one , 1-5%, 26172-55-4; 2-Methyl-4-isothiazolin-3-one , 0.1-1%, 2682-20-4	Glutaraldehyde - 40-50%, 11-30-8	Ethoxylated octylphenol - 5-10%, Trade Secret	Organic Phosphonate salt - 5-10%, Trade Secret; Sodium salts of phosphonic acid - 1-5%, Trade Secret; Modified arylamine - 1-5%, Trade Secret; Sodium hydroxide - 1-5%, 1310-73-2	Paraffinic petroleum distillate - 30-40%, 64742-55-8; Petroleum distillates - 30-40%, 64742-53-6; A polyether - 10-20% (Trade secret); Kerosene (petroleum) - 10-20%, 8008-20-6; Ethoxylated octylphenol 1-5%; (Trade secret); Naphthalene - 0.1-1%, 91-20-3
Classify product as non-persistent, persistent, or bioaccumulative	No data available	Bioaccumulative potential: Glutaraldehyde - LogPow: -0.36, BCF: N/A, Potential: Low	No data available	No data available	No data available
Product or active ingredient half-life	No data available	No data available	No data available	No data available	No data available
Product toxicity data specific to fish and aquatic invertebrate organisms	BPC68915 - Acute EC50 13.3 ppm, Daphnia, 48 hours; Acute LC50 8.7 mg/L, Daphnia, 48 hours; Acute LC50 36.7 mg/L, Daphnia, 96 hours; Acute LC50 18.7 mg/L, Fish, 96 hours; Acute LC50 4.1 mg/L, Fish, 96 hours; Acute LC50 12.7 mg/L, Fish, 96 hours; 5-chloro-2methyl-4-isothiazolin-3-one - Acute EC50 0.021 ppm Marine Water, Algae (<i>Skeletonema costatum</i>), 72 hours; Acute EC50 0.062 ppm Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 4 days	BPC68970 - Acute EC50 15.93 mg/L, Daphnia, 48 hours; Acute LC50 0.69 mg/L, Daphnia, 48 hours; Acute LC50 16 mg/L, Daphnia, 96 hours; Acute LC50 12 mg/L, Fish, 96 hours; Acute LC50 27 mg/L, Fish, 96 hours; Acute LC50 71 mg/L, Fish, 96 hours Glutaraldehyde - Acute EC50 0.31 ppm Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 96 hours; Acute EC50 0.75 ppm Fresh Water, Daphnia (<i>Daphnia magna</i>), 48 hours; Acute LC50 5.4 ppm Fresh Water, Fish (<i>Pimephales promelas</i>), 96 hours; Chronic NOEC 3.41 ppm, Fish (<i>Oncorhynchus mykiss</i>), 97 days	BPC67275 - Acute EC50 250 mg/L, Daphnia, 48 hours; Acute EC50 286.87 mg/L, Daphnia, 48 hours; Acute LC50 115.22 mg/L, Fish, 96 hours; Ethoxylated octylphenol - Acute EC50 210 ug/L Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 96 hours; Acute LC50 10800 ug/L Marine Water, Crustaceans (<i>Pandalus montagui - Adult</i>), 48 hours; Acute LC50 8600 to 9800 ug/L Fresh Water, Daphnia (<i>Daphnia magna - Neonate</i>), Acute LC50 7200 ug/L Fresh Water, Fish (<i>Oncorhynchus mykiss</i>), 96 hours	Sodium hydroxide - Acute EC50 40.38 mg/L Fresh Water, Crustaceans (<i>Ceriodaphnia dubia - Neonate</i>), 48 hours; Acute LC50 125 ppm Fresh Water, Fish (<i>Gambusia affinis - Adult</i>), 96 hours Acute EC50 2216 mg/L Marine Water, Crustaceans (<i>Acartia tonsa</i>), 48 hours; Acute LC50 >1000 mg/L Marine Water, Fish (<i>Cyprinodon variegatus</i>), 96 hours Ethoxylated octylphenol - Acute EC50 210 ug/L Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 96 hours; Acute EC50 10800 ug/L Marine Water, Crustaceans (<i>Pandalus montagui - Adult</i>), 48 hours; Acute LC50 8600 to 9800 ug/L Fresh Water, Daphnia (<i>Daphnia magna - Neonate</i>), 48 hours; Acute LC50 7200 ug/L Fresh Water, Fish (<i>Oncorhynchus mykiss</i>), 96 hours Naphthalene - EC50 2.96 mg/L Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 96 hours; EC50 2.16 mg/L Fresh Water Daphnia, 48 hours; LC50 1.6 mg/L Fresh Water; Fish (<i>Oncorhynchus mykiss</i>), 96 hours	BPW 76910 ANTIFOAM - Acute LC50 0.43 mg/L Daphnia, 48 hours; Acute LC50 4.76 mg/L, Daphnia, 48 hours; Acute LC50 268.2 mg/L, Fish, 96 hours; A polyether - Acute LC50 650000 ug/L Marine Water, Fish (<i>Menidia beryllina</i>), 96 hours Kerosene (petroleum) - Acute EC50 >5000 mg/L Marine Water, Algae (<i>Skeletonema costatum</i>), 72 hours; Acute EC50 2216 mg/L Marine Water, Crustaceans (<i>Acartia tonsa</i>), 48 hours; Acute LC50 >1000 mg/L Marine Water, Fish (<i>Cyprinodon variegatus</i>), 96 hours Ethoxylated octylphenol - Acute EC50 210 ug/L Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 96 hours; Acute EC50 10800 ug/L Marine Water, Crustaceans (<i>Pandalus montagui - Adult</i>), 48 hours; Acute LC50 8600 to 9800 ug/L Fresh Water, Daphnia (<i>Daphnia magna - Neonate</i>), 48 hours; Acute LC50 7200 ug/L Fresh Water, Fish (<i>Oncorhynchus mykiss</i>), 96 hours Naphthalene - EC50 2.96 mg/L Fresh Water, Algae (<i>Pseudokirchneriella subcapitata</i>), 96 hours; EC50 2.16 mg/L Fresh Water Daphnia, 48 hours; LC50 1.6 mg/L Fresh Water; Fish (<i>Oncorhynchus mykiss</i>), 96 hours
Frequency of product use. (GPD)	< 1.0	< 1.0	< 1.0	0.5-7.0	5.0-12.0

**Attachment K
SDS Information**

Manufacturer Name	Baker Hughes BPW76030	Baker Hughes BPW76453	Baker Hughes SPC692	Univar Hydrogen Peroxide 50%	Baker Hughes BPB55608	Baker Hughes GRD801
Product Use	East Plant Wastewater - Inorganic Coagulant	East Plant Wastewater - Water Clarifier	East Plant Wastewater - Flocculant	East Plant Wastewater - Oxidizing Agent	East Plant RO - Oxygen Scavenger	East Plant RO - Antiscalant
Chemical composition including CASRN for each ingredient	Aluminum chloride hydroxide - 20-30%, 12042-91-0; Polyalkylammonium chloride - 5-10%, Trade secret.	No hazardous ingredient	Petroleum distillates - 20-30%, 64742-47-8	Water - 30-60%, 7732-18-5; Hydrogen Peroxide - 30-60%, 7722-84-1	Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt) - 30-40%, 7631-90-5	Phosphonic acid compound - 20-30%, Trade Secret; Phosphonic acid compound - 1-5%, Trade Secret
Classify product as non-persistent, persistent, or bioaccumulative	No data available	No data available	No data available	No data available	No data available	No data available
Product or active ingredient half-life	No data available	No data available	No data available	No data available	No data available	No data available
Product toxicity data specific to fish and aquatic invertebrate organisms	BPW76030 Inorganic Coagulant - Acute LC50 2.32 mg/L, Daphnia, 48 hours; Acute LC50 1.81 mg/L, Daphnia, 48 hours; Acute LC50 6.57 mg/L, Fish, 96 hours Aluminum chloride hydroxide - Acute LC50 100 to 500 mg/L, Fish, 48 hours Polyalkylammonium chloride - Acute EC50 75 ppb Fresh Water, Daphnia (<i>Daphnia magna</i>), 48 hours; Acute LC50 0.32 mg/L Fresh Water, Crustaceans (<i>Ceriodaphnia dubia</i> - Neonate), 48 hours; Acute LC50 66 ppb Fresh Water, Fish (<i>Oncorhynchus mykiss</i>), 96 hours	BPW76453 - Acute EC50 >10 mg/L, Daphnia, 48 hours; Acute EC50 >10 mg/L, Fish, 96 hours	SPC692 Flocculant - Acute LC50 0.15 mg/L, Daphnia, 48 hours; Acute LC50 0.23 mg/L, Daphnia, 48 hours; Acute LC50 0.9 mg/L, Fish, 96 hours Petroleum distillates - Acute LC50 2200 µg/L Fresh Water, Fish (<i>Lepomis macrochirus</i>), 4 days; Acute LC50 2900 µg/L Fresh Water, Fish (<i>Oncorhynchus mykiss</i>), 96 hours;	Hydrogen Peroxide 7722-84-1 - EC50 2.5 mg/L, Algae (<i>Chlorella vulgaris</i>), 72 hours; LC50 10.0-32.0 mg/L, Fish (<i>Oncorhynchus mykiss</i>), 96 hours; LC50 18-56 mg/L, Fish (<i>Lepomis macrochirus</i>), 96 hours; LC50 16.4 mg/L, Fish (<i>Pimephales promelas</i>), 96 hours	Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt) - Acute EC50 140 mg/L Fresh Water, Daphnia (<i>Daphnia magna</i> - Neonate), 48 hours; Acute LC50 1.94 ppm Fresh Water, Crustaceans (<i>Ceriodaphnia dubia</i>), 48 hours; Acute LC50 26.2 ppm Fresh Water, Fish (<i>Pimephales promelas</i>), 96 hours	Guardion 801 Antiscalant - Acute EC50 20 to 28 mg/L, Algae, 96 hours; Acute EC50 297 to 555 mg/L, Daphnia, 48 hours; Acute LC50 > 2400 mg/L, Fish, 96 hours; Acute LC50 > 330 mg/L, Fish, 96 hours
Frequency of product use. (GPD)	20.0-30.0	1.0-4.0	10.0-20.0	500-1000	15.0-40.0	2.0-5.0

**Attachment K
SDS Information**

Manufacturer Name	Baker Hughes BPC68950	Baker Hughes GRD401	Baker Hughes GRD402	Baker Hughes BPR81156R	Baker Hughes Excalibur 7760 Additive
Product Use	East Plant RO - Biocide	East Plant RO - Membrane Cleaner	East Plant RO - Cleaner	East Plant Desalter - Neutralizer	East Plant Desalter - pH Control
Chemical composition including CASRN for each ingredient	2,2-Dibromo-3-nitrilopropionamide - 10-20%, 10222-01-2; Sodium Bromide - 1-5%, 7647-15-6	Potassium hydroxide - 5-10%, 1310-58-3; Inorganic phosphates - 5-10%, Trade Secret	Citric Acid - 40-50%, 77-92-9	Alkanolamine - 70-80%, 108-01-0	Organic acid - 60-70%, Trade Secret; Amine derivative - 0.1-1%, Trade Secret
Classify product as non-persistent, persistent, or bioaccumulative	Bioaccumulative potential: Polyethylene glycol - LogPow: N/A, BCF: 3.2, Potential: Low; 2,2-Dibromo-3-nitrilopropionamide - LogPow: 0.82, BCF: N/A, Potential: Low; Sodium Bromide - LogPow: N/A, BCF: 0.23, Potential: Low	Bioaccumulative potential: Potassium hydroxide - LogPow: 0.65, BCF: N/A, Potential: Low	Bioaccumulative potential: Citric acid - LogPow: -1.8, BCF: N/A, Potential: Low	Bioaccumulative potential: Alkanolamine - LogPow: -0.55, BCF: N/A, Potential: Low	Persistence: Excalibur 7760 Additive - OECD 301D Ready Biodegradability - Closed Bottle Test, Result: 86% - 28 days; Dose: 2.5 mg/L; Inoculum: N/A Bioaccumulative potential: Organic acid - LogPow: -0.72, BCF: N/A, Potential: Low
Product or active ingredient half-life	No data available	No data available	No data available	No data available	No data available
Product toxicity data specific to fish and aquatic invertebrate organisms	BPC68950 - EC50 1.5 mg/L, Algae, 72 hours; EC50 2.5 mg/L, Daphnia, 48 hours; LC50 3.6 mg/L, Fish, 96 hours Polyethylene glycol - Acute LC50 > 1000000 ug/L Fresh Water, Fish (<i>Salmo salar</i> - Parr), 96 hours 2,2-Dibromo-3-nitrilopropionamide - Acute EC50 0.86 ppm Fresh Water, Daphnia (<i>Daphnia magna</i>), 48 hours; Acute LC50 0.55 ppm Fresh Water, Fish (<i>Pimephales promelas</i>), 96 hours; Chronic NOEC 0.47 ppm, Fish (<i>Oncorhynchus mykiss</i>), 85 days Sodium Bromide - Acute EC50 8000000 ug/L Fresh Water, Algae (<i>Scenedesmus subspicatus</i> - Exponential growth phase), 72 hours; Acute EC50 6000000 ug/L Fresh Water, Algae (<i>Scenedesmus subspicatus</i> - Exponential growth phase), 96 hours; Acute EC50 1000 ppm Fresh Water, Daphnia (<i>Daphnia magna</i>), 48 hours; Acute EC50 44000 ug/L Fresh Water, Fish (<i>Poecilia reticulata</i>), 96 hours; Chronic noec 2500000 ug/L Fresh Water, Algae (<i>Scenedesmus pannonicus</i> - Exponential growth phase), 72 hours; Chronic NOEC 7.5 mg/L Fresh Water, Daphnia (<i>Daphnia magna</i> - Neonate), 21 days; Chronic NOEC 10000 ug/L Fresh Water, Fish (<i>Poecilia reticulata</i> - Juvenila (Fledgling, Hatchling, Weanling)), 4 weeks	Potassium hydroxide - Acute LC50 80 ppm Fresh Water, Fish (<i>Gambusia affinis</i> - Adult), 96 hours	Citric acid - Acute LC50 160000 ug/L Marine Water, Crustaceans (<i>Carcinus maenas</i> - Adult), 48 hours	BPR81156R NEUTRALIZER - Acute EC50 19 mg/L, Algae (<i>Daphnia magna</i>), 48 hours; Acute EC50 47 mg/L, Daphnia (<i>Ceriodaphnia dubia</i>), 48 hours; Acute EC50 45 mg/L, Daphnia (<i>Daphnia pulex</i>), 48 hours; Acute EC50 41.7 mg/L Marine Water, Micro-organism (<i>Vibrio fischeri</i>), 15 minutes; Acute LC50 132 mg/L, Fish (<i>Pimephales promelas</i>), 96 hours	Excalibur 7760 Additive - Acute EC50 15.2 mg/L, Daphnia (<i>Ceriodaphnia dubia</i>), 48 hours; Acute EC50 12.3 mg/L, Daphnia (<i>Daphnia magna</i>); Acute LC50 56.6 mg/L, Fish (<i>Pimephales promelas</i>), 96 hours Amine derivative - Acute EC50 0.22 mg/L Marine Water, Algae (<i>Skeletonema costatum</i>), 72 hours; Acute LC50 2.9 mg/L Marine Water, Crustaceans (<i>Acartia tonsa</i>), 48 hours
Frequency of product use. (GPD)	1.0-5.0	0.0-2.0	0.0-2.0	20.0-60.0	10.0-50.0

Section 1. Identification

Product name : BPB 59490
Product code : BPB59490

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

Identified uses : Corrosion Inhibitor.

Print date : 12/22/2022

Validation date : 12/22/2022

Version : 3.01

Supplier's details : Baker Petrolite LLC
 12645 W. Airport Blvd.
 Sugar Land, TX 77478
 For Product Information/SDSs Call: 800-231-3606
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
 Baker Petrolite: 800-231-3606
 (001)281-276-5400
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :  **FLAMMABLE LIQUIDS** - Category 3
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (dermal) - Category 3
 ACUTE TOXICITY (inhalation) - Category 3
 SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
 TOXIC TO REPRODUCTION - Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :  Flammable liquid and vapor.
 Harmful if swallowed.
 Toxic in contact with skin or if inhaled.
 Causes severe skin burns and eye damage.
 Suspected of damaging fertility or the unborn child.

Precautionary statements

Section 2. Hazards identification

- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
- Response** : **IF** exposed or concerned: Get medical advice or attention. **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. **IF ON SKIN:** Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : Store locked up. Store in a well-ventilated place. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Morpholine	20 - 30	110-91-8
Diethylethanolamine	20 - 30	100-37-8
Cyclohexylamine	20 - 30	108-91-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 4. First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled.
- Skin contact** : Causes severe burns. Toxic in contact with skin.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : reduced fetal weight, increase in fetal deaths, skeletal malformations
- Skin contact** : pain or irritation, redness, blistering may occur, reduced fetal weight, increase in fetal deaths, skeletal malformations
- Ingestion** : Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flames, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Keep away from acids. Empty containers

Section 7. Handling and storage

Advice on general occupational hygiene

retain product residue and can be hazardous. Do not reuse container.

- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in original container, protected from direct sunlight. Store locked up. Eliminate all ignition sources. Separate from acids. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Morpholine	ACGIH TLV (United States, 1/2022). Absorbed through skin. TWA: 71 mg/m³, 0 times per shift, 8 hours. TWA: 20 ppm, 0 times per shift, 8 hours. NIOSH REL (United States, 10/2020). Absorbed through skin. STEL: 105 mg/m³, 0 times per shift, 15 minutes. STEL: 30 ppm, 0 times per shift, 15 minutes. TWA: 70 mg/m³, 0 times per shift, 10 hours. TWA: 20 ppm, 0 times per shift, 10 hours. OSHA PEL (United States, 5/2018). Absorbed through skin. TWA: 70 mg/m³, 0 times per shift, 8 hours. TWA: 20 ppm, 0 times per shift, 8 hours. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. STEL: 105 mg/m³, 0 times per shift, 15 minutes. STEL: 30 ppm, 0 times per shift, 15 minutes. TWA: 70 mg/m³, 0 times per shift, 8 hours. TWA: 20 ppm, 0 times per shift, 8 hours.
Diethylethanolamine	ACGIH TLV (United States, 1/2022). Absorbed through skin. TWA: 9.6 mg/m³, 0 times per shift, 8 hours. TWA: 2 ppm, 0 times per shift, 8 hours. NIOSH REL (United States, 10/2020). Absorbed through skin. TWA: 50 mg/m³, 0 times per shift, 10 hours. TWA: 10 ppm, 0 times per shift, 10 hours. OSHA PEL (United States, 5/2018). Absorbed through skin. TWA: 50 mg/m³, 0 times per shift, 8 hours. TWA: 10 ppm, 0 times per shift, 8 hours. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 50 mg/m³, 0 times per shift, 8 hours.

Section 8. Exposure controls/personal protection

Cyclohexylamine

TWA: 10 ppm, 0 times per shift, 8 hours.
ACGIH TLV (United States, 1/2022).
 TWA: 41 mg/m³, 0 times per shift, 8 hours.
 TWA: 10 ppm, 0 times per shift, 8 hours.
NIOSH REL (United States, 10/2020).
 TWA: 40 mg/m³, 0 times per shift, 10 hours.
 TWA: 10 ppm, 0 times per shift, 10 hours.
OSHA PEL 1989 (United States, 3/1989).
 TWA: 40 mg/m³, 0 times per shift, 8 hours.
 TWA: 10 ppm, 0 times per shift, 8 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Colorless.
- Odor** : Amine like.
- Odor threshold** : Not available.
- pH** : 13 to 14
- : Neat-without dilution.
- Melting point/freezing point** : Not available.
- Initial Boiling Point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.

Section 9. Physical and chemical properties

Flash point	: Closed cup: 46.7°C (116.1°F) [SFCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 0.9721 (15.6°C)
Density	: 8.1 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	:  Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
<u>Particle characteristics</u>	
Median particle size	:  Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials	:  Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Morpholine	LD50 Dermal	Rabbit	0.5 g/kg	-
	LD50 Oral	Rat	1.05 g/kg	-
	LD50 Oral	Rat	1450 mg/kg	-
Diethylethanolamine	LD50 Oral	Rat	1300 mg/kg	-
Cyclohexylamine	LC50 Inhalation Vapor	Mouse	1070 mg/m ³	4 hours
	LC50 Inhalation Vapor	Rat	2.3 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	7500 mg/m ³	4 hours

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Morpholine	-	3	-
Cyclohexylamine	-	3	-

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Toxic if inhaled.
Skin contact : Causes severe burns. Toxic in contact with skin.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : reduced fetal weight, increase in fetal deaths, skeletal malformations
Skin contact : pain or irritation, redness, blistering may occur, reduced fetal weight, increase in fetal deaths, skeletal malformations

Section 11. Toxicological information

Ingestion : Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPB 59490	1163.2	777.8	Not available.	9.4	Not available.
Morpholine	1450	300	Not available.	3	Not available.
Diethylethanolamine	1300	1100	Not available.	11	Not available.
Cyclohexylamine	500	1100	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Morpholine	Acute EC50 28 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Diethylethanolamine	Acute LC50 1000 µg/l Acute LC50 1780000 to 1920000 µg/l Fresh water	Fish - Danio rerio Fish - Pimephales promelas	96 hours 96 hours
Cyclohexylamine	Acute EC50 20 mg/l Fresh water Acute LC50 44 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata Fish - Oncorhynchus mykiss	96 hours 96 hours

Persistence and degradability

Not available.

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Morpholine	-2.55	<2.8	low
Diethylethanolamine	0.21	<6.1	low
Cyclohexylamine	3.7	3.162	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) :  Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN2920	UN2920	UN2920	UN2920
UN proper shipping name	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Contains: Morpholine, Cyclohexylamine)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Contains: Morpholine, Cyclohexylamine)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Contains: Morpholine, Cyclohexylamine)	CORROSIVE LIQUID, FLAMMABLE N.O.S. (Contains: Morpholine, Cyclohexylamine)
Transport hazard class(es)	8 (3)  	8 (3)  	8 (3)  	8 (3)  
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.18-2.19 (Class 3).

IMDG : **Emergency schedules** F-E S-C

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : 132

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export**: No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: cyclohexylamine

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Cyclohexylamine	20 - 30	Yes.	10000	1386.5	10000	1386.5

SARA 311/312

Classification : **FLAMMABLE LIQUIDS** - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 3
ACUTE TOXICITY (inhalation) - Category 3
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
TOXIC TO REPRODUCTION - Category 2

SARA 313

Supplier notification : No products were found.

California Prop. 65

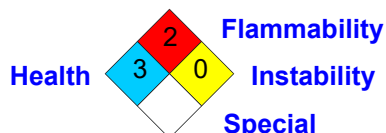
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL) : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/22/2022

Section 16. Other information

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

📌 Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPB 55608 OXYGEN SCAVENGER

Product code : BPB55608

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

Identified uses : Oxygen scavenger.

Print date : 12/22/2022

Validation date : 12/22/2022

Version : 3.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :  CORROSIVE TO METALS - Category 1
ACUTE TOXICITY (oral) - Category 4
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

GHS label elements

Hazard pictograms :   

Signal word : Danger

Hazard statements :  May be corrosive to metals.
Harmful if swallowed.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.

Precautionary statements

Section 2. Hazards identification

Prevention	: Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear respiratory protection. Keep only in original packaging. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
Response	: Absorb spillage to prevent material damage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.
Storage	: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in a corrosion resistant container with a resistant inner liner.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	30 - 40	7631-90-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In the event of any complaints or symptoms, avoid further exposure.
Skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma
- Skin contact** : irritation, redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Additional information

If product is ingested and vomiting occurs naturally, have person lean forward to reduce the risk of aspiration into the lungs.

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : sulfur oxides, metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** :  Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :  Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in a corrosion resistant container with a resistant inner liner. Store locked up. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	ACGIH TLV (United States, 1/2022). TWA: 5 mg/m ³ , 0 times per shift, 8 hours. NIOSH REL (United States, 10/2020). TWA: 5 mg/m ³ , 0 times per shift, 10 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ , 0 times per shift, 8 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves.

Skin protection : Wear long sleeves to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Yellow.

Odor : Pungent. Sulfur dioxide.

Odor threshold : Not available.

pH : 4.3 to 5.3 [Conc. (% w/w): 100%]
: Neat - without dilution.

Melting point/freezing point : Not available.

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : 104°C (219.2°F)

Flash point : Not available.

Section 9. Physical and chemical properties

Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 2.2 kPa (16.8 mm Hg) @ 21.1°C (Calculated Value for all Components.)
Relative vapor density	: <1 [Air = 1]
Relative density	: 1.336 (15.6°C)
Density	: 11.13 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
<u>Particle characteristics</u>	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials and acids. Avoid strong mineral acids which will yield sulfur dioxide gas.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
BPB 55608 OXYGEN SCAVENGER	LD50 Oral	Rat	2000 mg/kg	-
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	LD50 Oral	Rat	1131 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	-	3	-

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact : May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma
Skin contact : irritation, redness
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : ☒ No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
☒ BPB 55608 OXYGEN SCAVENGER	2000	Not available.	Not available.	Not available.	Not available.
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	1131	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
☒ Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	Acute EC50 140 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.94 ppm Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 26.2 ppm Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : ☒ Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN2693	UN2693	UN2693	UN2693
UN proper shipping name	BISULFITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))	BISULFITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

DOT Classification : **Reportable quantity** 12500 lbs / 5675 kg [1122.1 gal / 4247.8 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

IMDG : **Emergency schedules** F-A S-B

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt), 1123 gal of this product.

Marine pollutant ☒ Not available.

North-America NAERG : 154

Section 15. Regulatory information

- U.S. Federal regulations** :
- TSCA 12(b) one-time export:** No products were found.
 - TSCA 12(b) annual export notification:** No products were found.
 - United States inventory (TSCA 8b):** All components are active or exempted.
 - Clean Water Act (CWA) 307:** No products were found.
 - Clean Water Act (CWA) 311:** Sodium bisulfite, solution

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification

- :
- CORROSIVE TO METALS - Category 1
 - ACUTE TOXICITY (oral) - Category 4
 - RESPIRATORY SENSITIZATION - Category 1
 - SKIN SENSITIZATION - Category 1
 - SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313

Supplier notification : No products were found.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/22/2022

Key to abbreviations

- :
- ATE = Acute Toxicity Estimate
 - BCF = Bioconcentration Factor
 - GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 - IATA = International Air Transport Association
 - IBC = Intermediate Bulk Container
 - IMDG = International Maritime Dangerous Goods
 - LogPow = logarithm of the octanol/water partition coefficient
 - MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 - N/A = Not available
 - SGG = Segregation Group
 - UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPB 59316 SCALE INHIBITOR

Product code : BPB59316

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

Identified uses : Boiler Water Treatment. Scale Inhibitor.

Print date : 12/22/2022

Validation date : 12/22/2022

Version : 2.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

Precautionary statements

Prevention :  Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves..
Wear protective clothing. Wear eye or face protection. Wash thoroughly after handling.

Response :  **INHALED:** Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water.
Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Store locked up.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Sodium Molybdate	1 - 5	7631-95-0
Sodium hydroxide	1 - 5	1310-73-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, metal oxide/oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 8. Exposure controls/personal protection

CEIL: 2 mg/m³, 0 times per shift, 0 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear to hazy.]

Color : Light pink to amber

Odor : Mild.

Odor threshold : Not available.

pH : 12.7

: Neat-without dilution.

Melting point/freezing point : Not available.

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: >93.4°C (>200.1°F) [TCC]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : Not available.

Section 9. Physical and chemical properties

Relative vapor density	: >1 [Air = 1]
Relative density	: 1.14 (15.6°C)
Density	: 9.4962 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	:  Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: -6.67°C (20°F)
<u>Particle characteristics</u>	
Median particle size	:  Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, acids and moisture.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
 Sodium Molybdate	LD50 Oral	Rat	0.25 g/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

Section 11. Toxicological information

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : ☒ Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : ☒ Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : ☒ No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPB 59316 SCALE INHIBITOR	Acute EC50 890.9 ppm	Daphnia	48 hours
	Acute LC50 3317.71 ppm	Fish	96 hours
	Acute EC50 40.19 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 2847.5 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Sodium Molybdate	Acute LC50 79800 µg/l Marine water	Fish - Morone saxatilis	96 hours
	Chronic NOEC 50 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 87.8 mg/l Fresh water	Fish - Oncorhynchus clarkii - Embryo	30 days
	Acute EC50 40.38 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
Sodium hydroxide	Acute EC50 40.38 mg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Acute LC50 125 ppm Fresh water		

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) :  Not available.

Other adverse effects : No known significant effects or critical hazards.

Additional information

The aquatic data listed was done on a similar product.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3266	UN3266	UN3266	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)

Section 14. Transport information

Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).
- IMDG** : **Emergency schedules** F-A S-B
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- Transport in bulk according to IMO instruments** : Not available.
- DOT Reportable Quantity** : Sodium hydroxide, 8775 gal of this product.
- Marine pollutant** : Not available.

North-America NAERG : 154

Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
☒ **United States inventory (TSCA 8b):** All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: sodium hydroxide

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

- SARA 302/304** : No products were found.
- SARA 311/312**
- Classification** : SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
- SARA 313**
- Supplier notification** : No products were found.
- California Prop. 65**

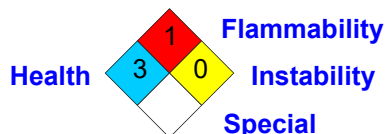
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

- Canada (CEPA DSL):** : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/22/2022

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

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The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 67015

Product code : BPC67015

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

Identified uses : Corrosion Inhibitor.

Print date : 1/24/2024

Validation date : 1/24/2024

Version : 3.02

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Mixing of chemicals may create a reaction hazardous to one's health, to the environment, or a potential fire hazard.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
No hazardous ingredient		

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : phosphorus oxides, metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Colorless.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : 5 to 7
- : Neat-without dilution.
- Melting point/freezing point** :  -1.5°C (29.3°F)
- Initial Boiling Point** : Not available.

Section 9. Physical and chemical properties and safety characteristics

Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Not available.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.314 (15.6°C)
Density	: 10.95 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
<u>Particle characteristics</u>	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

No available toxicity data.

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure :  Routes of entry anticipated: Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPC 67015	Acute EC50 1708 mg/l	Daphnia	48 hours
	Acute EC50 224 ppm	Daphnia	48 hours
	Acute EC50 5657 mg/l	Fish	48 hours
	Acute LC50 >1000 ppm	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : Not applicable.

SARA 313

Supplier notification : No products were found.

California Prop. 65

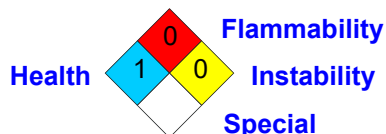
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 1/24/2024

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

▣ Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 68156 Corrosion Inhibitor
Product code : BPC68156

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

Identified uses : Corrosion inhibitor.

Print date : 3/31/2023

Validation date : 2/22/2023

Version : 6

Supplier's details : Baker Petrolite LLC
 12645 W. Airport Blvd.
 Sugar Land, TX 77478
 For Product Information/SDSs Call: 800-231-3606
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
 Baker Petrolite: 800-231-3606
 (001)281-276-5400
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Wash thoroughly after handling.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Store locked up.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Halogenated derivative of heterocyclic compound	10 - 20	Trade secret.
Modified arylamine	0.1 - 1	Trade secret.
Sodium hydroxide	0.1 - 1	1310-73-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Additional information

Any concentration shown as a range is to protect confidentiality.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Section 4. First aid measures

- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds, metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Halogenated derivative of heterocyclic compound	None.
Modified arylamine	None.
Sodium hydroxide	ACGIH TLV (United States, 4/2014). C: 2 mg/m ³ , 0 times per shift, 0 hours. NIOSH REL (United States, 10/2013). CEIL: 2 mg/m ³ , 0 times per shift, 0 hours. OSHA PEL (United States, 2/2013). TWA: 2 mg/m ³ , 0 times per shift, 8 hours. OSHA PEL 1989 (United States, 3/1989).

Section 8. Exposure controls/personal protection

CEIL: 2 mg/m³, 0 times per shift, 0 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear.]

Color : Colorless to amber.

Odor : Mild.

Odor threshold : Not available.

pH : 12.2 to 14

Melting point/freezing point : Not available.

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: >93.4°C (>200.1°F) [Other]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : Not available.

Relative vapor density : Not available.

Relative density : 1.133

Section 9. Physical and chemical properties

Density	: 9.4506 (lbs/gal)
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, acids and moisture.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Modified arylamine	LD50 Oral	Rat	640 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

Section 11. Toxicological information

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPC 68156 Corrosion Inhibitor	64000	7857.1	Not available.	Not available.	Not available.
Halogenated derivative of heterocyclic compound	Not available.	1100	Not available.	Not available.	Not available.
Modified arylamine	640	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Sodium hydroxide	Acute EC50 40.38 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
BPC 68156 Corrosion Inhibitor	Acute LC50 125 ppm Fresh water LC50 65.98 mg/l	Fish - Gambusia affinis - Adult Fish - Pimephales minnow	96 hours 96 hours
	Acute EC50 88.77 mg/l	Crustaceans - Ceriodaphnia daphnia	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) :  Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1760	UN1760	UN1760	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Contains: Halogenated derivative of heterocyclic compound)	CORROSIVE LIQUID, N.O.S. (Contains: Halogenated derivative of heterocyclic compound)	CORROSIVE LIQUID, N.O.S. (Contains: Halogenated derivative of heterocyclic compound)	CORROSIVE LIQUID, N.O.S. (Contains: Halogenated derivative of heterocyclic compound)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity Sodium hydroxide, 10581 gal of this product.

Marine pollutant Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: sodium hydroxide

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1

SARA 313

Section 15. Regulatory information

Supplier notification : No products were found.

California Prop. 65

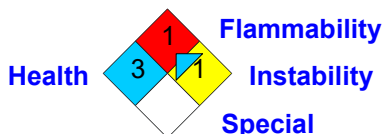
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 3/31/2023

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

➤ Indicates information that has changed from previously issued version.

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The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : DemandTrac™ 980T
™ a trademark of Baker Hughes Incorporated.

Product code : DMT980T

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

Identified uses : Scale Inhibitor.

Print date : 1/4/2023

Validation date : 1/4/2023

Version : 2.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : Causes serious eye damage.

Precautionary statements

Prevention : Wear eye or face protection.

Response :  IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Organic phosphonate	5 - 10	2809-21-4
Sodium aryl sulfonate	1 - 5	119345-04-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

Section 4. First aid measures

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : carbon dioxide, carbon monoxide, sulfur oxides, phosphorus oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Organic phosphonate	None.
Sodium aryl sulfonate	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection	: Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	: Chemical-resistant gloves: Nitrile or Neoprene gloves. 4H gloves.
Skin protection	: Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
Respiratory protection	: If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	: Liquid. [Clear.]
Color	: Yellow.
Odor	: None.
Odor threshold	: Not available.
pH	: 2
	: Neat - without dilution.
Melting point/freezing point	: Not available.
Initial Boiling Point	: Not available.
Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: >93.4°C (>200.1°F) [SFCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.1223 (15.6°C)
Density	: 9.3488 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (4.44°C): 22.5 cP
VOC	: Not available.
Pour Point	: -3.9°C (25°F)
Particle characteristics	
Median particle size	: ☒ Not applicable.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials. Do not use mild steel for transportation, handling or storage. Do not use aluminum for transportation, handling or storage.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Organic phosphonate	LD50 Oral	Rat	2400 mg/kg	-
Sodium aryl sulfonate	LD50 Oral	Rat	1976 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
DemandTrac™ 980T	8333.3	Not available.	Not available.	Not available.	Not available.
Organic phosphonate	500	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

No available toxicity data.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Organic phosphonate	-3.5	71	low
Sodium aryl sulfonate	-2.68	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : ☒ Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 14. Transport information

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 12(b) one-time export: No products were found.
 TSCA 12(b) annual export notification: No products were found.
☒ **United States inventory (TSCA 8b)**: All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : SERIOUS EYE DAMAGE - Category 1

SARA 313

Supplier notification : No products were found.

California Prop. 65

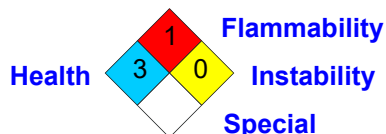
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL) : ☒ All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 1/4/2023

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

☒ Indicates information that has changed from previously issued version.

Section 16. Other information

[Notice to reader](#)

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 68915
Product code : BPC68915

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

Identified uses : Microbiocide.

Print date : 12/30/2022

Validation date : 12/30/2022

Version : 7.01

Supplier's details : Baker Petrolite LLC
 12645 W. Airport Blvd.
 Sugar Land, TX 77478
 For Product Information/SDSs Call: 800-231-3606
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
 Baker Petrolite: 800-231-3606
 (001)281-276-5400
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1
 CARCINOGENICITY - Category 1B
 AQUATIC HAZARD (ACUTE) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 May cause cancer.
 Toxic to aquatic life.

Precautionary statements

Prevention :

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Section 2. Hazards identification

Response : If exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Magnesium nitrate	1 - 5	10377-60-3
5-chloro-2-methyl-4-isothiazolin-3-one	1 - 5	26172-55-4
2-Methyl-4-isothiazolin-3-one	0.1 - 1	2682-20-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.

Inhalation : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, halogenated compounds, metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Magnesium nitrate 5-chloro-2-methyl-4-isothiazolin-3-one	None. Supplier (United States). TWA: 0.076 mg/m ³ STEL: 0.23 mg/m ³
2-Methyl-4-isothiazolin-3-one	Supplier (United States). TWA: 1.5 µg/m ³ STEL: 4.5 mg/m ³

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear.]

Color : Colorless to light yellow.

Odor : Pungent.

Odor threshold : Not available.

pH : 3.7

: Neat - without dilution.

Melting point/freezing point : Not available.

Initial Boiling Point : Not available.

Section 9. Physical and chemical properties

Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: >100°C (>212°F) [SFCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 1.4 kPa (10.859 mm Hg) @ 37.778°C
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.0271 (15.6°C)
Density	: 8.5557 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (4.44°C): 2.1 cP
VOC	: Not available.
Pour Point	: 3°C (37.4°F)
<u>Particle characteristics</u>	
Median particle size	: ☒ Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
BPC 68915 Magnesium nitrate 5-chloro-2-methyl-4-isothiazolin-3-one	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3810 mg/kg	-
	LD50 Oral	Rat	5440 mg/kg	-
	LC50 Inhalation Vapor	Rat	0.33 mg/l	4 hours
	LD50 Dermal	Rabbit	660 mg/kg	-
	LD50 Oral	Rat	457 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Magnesium nitrate	-	2A	-

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
5-chloro-2-methyl-4-isothiazolin-3-one	Category 3	-	Respiratory tract irritation
2-Methyl-4-isothiazolin-3-one	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness

Section 11. Toxicological information

- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPC 68915	3810	Not available.	Not available.	Not available.	Not available.
Magnesium nitrate	5440	Not available.	Not available.	Not available.	Not available.
5-chloro-2-methyl-4-isothiazolin-3-one	100	660	Not available.	Not available.	Not available.
2-Methyl-4-isothiazolin-3-one	100	300	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPC 68915	Acute EC50 13.3 ppm	Daphnia	48 hours
	Acute LC50 8.7 mg/l	Daphnia	48 hours
	Acute LC50 36.7 mg/l	Daphnia	96 hours
	Acute LC50 18.7 mg/l	Fish	96 hours
	Acute LC50 4.1 mg/l	Fish	96 hours
	Acute LC50 12.7 mg/l	Fish	96 hours
5-chloro-2-methyl-4-isothiazolin-3-one	Acute EC50 0.021 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 0.062 ppm Fresh water	Algae - Pseudokirchneriella subcapitata	4 days

Section 12. Ecological information

2-Methyl-4-isothiazolin-3-one	Acute EC50 13 ppm Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute EC50 0.18 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.19 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.1 ppm Marine water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.02 ppm	Fish - Pimephales promelas	36 days
	Acute EC50 0.18 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.07 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) :  Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3265	UN3265	UN3265	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 5-chloro-2-methyl-4-isothiazolin-3-one)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 5-chloro-2-methyl-4-isothiazolin-3-one)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 5-chloro-2-methyl-4-isothiazolin-3-one)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 5-chloro-2-methyl-4-isothiazolin-3-one)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8)

Section 14. Transport information

IMDG : **Emergency schedules** F-A S-B

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : 153

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 5(a)2 proposed significant new use rules:** 5-chloro-2-methyl-2H-isothiazol-3-one
TSCA 12(b) one-time export: 5-chloro-2-methyl-2H-isothiazol-3-one
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1
 CARCINOGENICITY - Category 1B

SARA 313

	Product name	CAS number	%
Supplier notification	Magnesium nitrate	10377-60-3	1 - 5

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Additional information

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide ACT (FIFRA) and is therefore exempt from US Toxic Substance Control Act (TSCA) Inventory listing requirements.

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

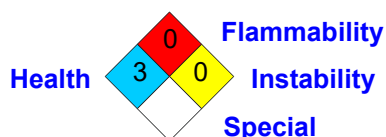
Following is the hazard information as required on the pesticide label:

DANGER

Corrosive. Causes irreversible eye damage and skin burns. May be fatal if absorbed through skin. May cause allergic skin reaction. Harmful if inhaled. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Mixers, loaders and others exposed to this product must wear: long-sleeved shirt and long pants; chemical resistant gloves such as nitrile or butyl rubber; shoes plus socks; goggles and face shield; and chemical resistant apron. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separate from other laundry. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly. This product may cause skin sensitization reactions in some people. This chemical is toxic to terrestrial and aquatic plants, fish and aquatic invertebrates.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/30/2022

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

📌 Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 68970

Product code : BPC68970

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

Identified uses : Microbiocide.

Print date : 12/30/2022

Validation date : 12/30/2022

Version : 4.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 3
ACUTE TOXICITY (inhalation) - Category 2
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
AQUATIC HAZARD (ACUTE) - Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements :  Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Fatal if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Very toxic to aquatic life.

Precautionary statements

Section 2. Hazards identification

- Prevention** : Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
- Response** : Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Additional information

Glutaraldehyde may stain skin and nails to brown or golden brown color.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Glutaraldehyde	40 - 50	111-30-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In the event of any complaints or symptoms, avoid further exposure.

Section 4. First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Fatal if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Toxic if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Additional information

If ingested, do not give anything to drink since this may increase the absorption of the glutaraldehyde.

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Glutaraldehyde	ACGIH TLV (United States, 1/2022). Skin sensitizer. Inhalation sensitizer. C: 0.05 ppm, 0 times per shift, 0 hours. NIOSH REL (United States, 10/2020). CEIL: 0.8 mg/m ³ , 0 times per shift, 0 hours. CEIL: 0.2 ppm, 0 times per shift, 0 hours. OSHA PEL 1989 (United States, 3/1989). CEIL: 0.8 mg/m ³ , 0 times per shift, 0 hours. CEIL: 0.2 ppm, 0 times per shift, 0 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	: Liquid. [Clear.]
Color	: Colorless.
Odor	: Fruity. Medicinal [Strong]
Odor threshold	: Not available.
pH	: 3.1 to 4.5 [Conc. (% w/w): 100%] : Neat-without dilution.
Melting point/freezing point	: -17°C (1.4°F)
Initial Boiling Point	: Not available.
Boiling point, initial boiling point, and boiling range	: 100.7°C (213.3°F)
Flash point	: Closed cup: >100°C (>212°F) [Estimated]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: 1 (Butyl acetate = 1)
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 2 kPa (14.7 mm Hg) @ 20°C
Relative vapor density	: 1 [Air = 1]
Relative density	: 1.118 (15.6°C)
Density	: 9.31 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (20°C): 13.6 cP
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: ☒ Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.

Section 10. Stability and reactivity

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
BPC 68970	LC50 Inhalation Vapor LD50 Oral	Rat Rat - Male, Female	>22 ppm 200 mg/kg	4 hours -
Glutaraldehyde	LD50 Oral	Rat	134 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Glutaraldehyde	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Fatal if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Section 11. Toxicological information

Ingestion : Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPC 68970	200	Not available.	Not available.	0.5	Not available.
Glutaraldehyde	134	Not available.	Not available.	3	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPC 68970	Acute EC50 15.93 mg/l	Daphnia	48 hours
	Acute LC50 0.69 mg/l	Daphnia	48 hours
	Acute LC50 16 mg/l	Daphnia	96 hours
	Acute LC50 12 mg/l	Fish	96 hours
	Acute LC50 27 mg/l	Fish	96 hours
	Acute LC50 71 mg/l	Fish	96 hours
Glutaraldehyde	Acute EC50 0.31 ppm Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 0.75 ppm Fresh water	Daphnia - Daphnia magna	48 hours

Section 12. Ecological information

	Acute LC50 5.4 ppm Fresh water Chronic NOEC 3.41 ppm	Fish - Pimephales promelas Fish - Oncorhynchus mykiss	96 hours 97 days
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Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Glutaraldehyde	-0.36	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Additional information

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans or other 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.

An EcoTox™ Report, and/or the material's environmental fate is available upon request at the following number: 1-800-235-4249, then press 4.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN2922	UN2922	UN2922	UN2922
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (Contains: Glutaraldehyde)	CORROSIVE LIQUID, TOXIC, N.O.S. (Contains: Glutaraldehyde)	CORROSIVE LIQUID, TOXIC, N.O.S.	CORROSIVE LIQUID, TOXIC, N.O.S.
Transport hazard class(es)	8 (6.1)   	8 (6.1)   	8 (6.1)   	8 (6.1)   
Packing group	II	II	II	II

Section 14. Transport information

Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
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Additional information

- DOT Classification** : Toxic - Inhalation hazard Zone B
This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.26-2.36 (Class 6), 2.7 (Marine pollutant mark).
The marine pollutant mark is not required when transported by road or rail.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A S-B
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Remarks Marine pollutant

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity Not applicable.

Marine pollutant  Glutaraldehyde

North-America NAERG : 154

Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
 **United States inventory (TSCA 8b):** All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
 United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	0.1 - 1

SARA 302/304 : No products were found.

SARA 311/312

Section 15. Regulatory information

Classification : ACUTE TOXICITY (oral) - Category 3
 ACUTE TOXICITY (inhalation) - Category 2
 SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
 RESPIRATORY SENSITIZATION - Category 1
 SKIN SENSITIZATION - Category 1
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313

Supplier notification : No products were found.

California Prop. 65

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

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Additional information

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide ACT (FIFRA) and is therefore exempt from US Toxic Substance Control Act (TSCA) Inventory listing requirements.

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Following is the hazard information as required on the pesticide label:

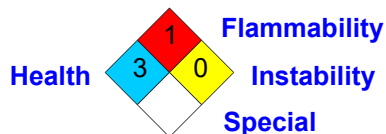
DANGER

Corrosive. Causes irreversible eye damage. Causes skin burns. Harmful if inhaled. May be fatal if swallowed. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes asthmatic signs and symptoms in hyper-reactive individuals. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Wear goggles, protective clothing, and butyl or nitrile gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

This pesticide is toxic to fish.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/30/2022

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

Section 16. Other information

Indicates information that has changed from previously issued version.

[Notice to reader](#)

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 67275

Product code : BPC67275

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

Identified uses : Dispersant.

Print date : 12/30/2022

Validation date : 12/30/2022

Version : 4.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ☒ SERIOUS EYE DAMAGE - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : ☒ Causes serious eye damage.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : ☒ Wear eye or face protection. Avoid release to the environment.

Response : ☒ IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Not applicable.

Disposal : ☒ Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
2-Ethoxylated octylphenol	5 - 10	Trade secret.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

Section 4. First aid measures

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
2-Ethoxylated octylphenol	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection	: Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	: Chemical-resistant gloves.
Skin protection	: Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
Respiratory protection	: If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	: Liquid. [Clear.]
Color	: Yellow. [Light]
Odor	: Mild.
Odor threshold	: Not available.
pH	: 3.6 to 4.3 [Conc. (% w/w): 100%] : Neat-without dilution.
Melting point/freezing point	: -1.1°C (30°F)
Initial Boiling Point	: Not available.
Boiling point, initial boiling point, and boiling range	: 100°C (212°F)
Flash point	: Closed cup: >93.4°C (>200.1°F) [TCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.0759 (15.6°C)
Density	: 8.96 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (15.6°C): 8 cP
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: ☒ Not applicable.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethoxylated octylphenol	LD50 Oral	Mouse	3500 mg/kg	-
	LD50 Oral	Rat	4190 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Section 11. Toxicological information

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPC 67275	5076.1	Not available.	Not available.	Not available.	Not available.
Ethoxylated octylphenol	500	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
BPC 67275 Ethoxylated octylphenol	Acute EC50 250 mg/l	Daphnia	48 hours
	Acute EC50 286.87 mg/l	Daphnia	48 hours
	Acute LC50 115.22 mg/l	Fish	96 hours
	Acute EC50 210 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 to 9800 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : ☒ Not available.

Other adverse effects : No known significant effects or critical hazards.

Additional information

An EcoTox™ Report, and/or the material's environmental fate is available upon request at the following number: 1-800-235-4249, then press 4.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Section 14. Transport information

Additional information

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : SERIOUS EYE DAMAGE - Category 1

SARA 313

Supplier notification : No products were found.

California Prop. 65

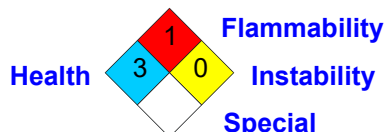
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/30/2022

Section 16. Other information

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

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The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 67390 WATER ADDITIVE

Product code : BPC67390

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

Identified uses : Industrial cooling water treating product.

Print date : 12/30/2022

Validation date : 12/30/2022

Version : 3.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

Precautionary statements

Prevention :  Wear protective gloves, protective clothing and eye or face protection. Wash thoroughly after handling.

Response :  **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Store locked up.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Organic phosphonate salt	5 - 10	Trade secret.
Sodium salts of phosphonic acid	1 - 5	Trade secret.
Modified arylamine	1 - 5	Trade secret.
Sodium hydroxide	1 - 5	1310-73-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.

Section 4. First aid measures

- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Organic phosphonate salt	None.
Sodium salts of phosphonic acid	None.
Modified arylamine	None.
Sodium hydroxide	ACGIH TLV (United States, 4/2014). C: 2 mg/m ³ , 0 times per shift, 0 hours. NIOSH REL (United States, 10/2013). CEIL: 2 mg/m ³ , 0 times per shift, 0 hours. OSHA PEL (United States, 2/2013). TWA: 2 mg/m ³ , 0 times per shift, 8 hours. OSHA PEL 1989 (United States, 3/1989).

Section 8. Exposure controls/personal protection

CEIL: 2 mg/m³, 0 times per shift, 0 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Amber to brown.

Odor : No distinct odor.

Odor threshold : Not available.

pH : 12.5 to 14

: Neat-without dilution.

Melting point/freezing point : -5.9997°C (21.2°F)

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: >93.4°C (>200.1°F) [TCC]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : 4.9 kPa (37 mm Hg)

Section 9. Physical and chemical properties

Relative vapor density	: >1 [Air = 1]
Relative density	: 1.152 (15.6°C)
Density	: 9.59 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: -3.8°C (25.2°F)
<u>Particle characteristics</u>	
Median particle size	: ☒ Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and moisture.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
☒ Sodium salts of phosphonic acid	LD50 Oral	Rat	2850 mg/kg	-
Modified arylamine	LD50 Oral	Rat	640 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Section 11. Toxicological information

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : ☒ Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : ☒ Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : ☒ No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPC 67390 WATER ADDITIVE	9495	Not available.	Not available.	Not available.	Not available.
Sodium salts of phosphonic acid	500	Not available.	Not available.	Not available.	Not available.
Modified arylamine	640	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Sodium hydroxide	Acute EC50 40.38 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 125 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Sodium salts of phosphonic acid	-3.5	71	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : ☒ Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3266	UN3266	UN3266	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Sodium hydroxide)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

- DOT Classification** : **Reportable quantity** 50000 lbs / 22700 kg [5205.5 gal / 19704.9 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).
- IMDG** : **Emergency schedules** F-A S-B
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- Transport in bulk according to IMO instruments** : Not available.
- DOT Reportable Quantity** Sodium hydroxide, 5214 gal of this product.
- Marine pollutant** Not available.

North-America NAERG : 154

Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: sodium hydroxide

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

- SARA 302/304** : No products were found.
- SARA 311/312**

Section 15. Regulatory information

Classification : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

SARA 313

Supplier notification : No products were found.

California Prop. 65

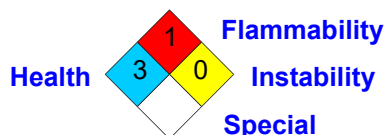
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : ☒ All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/30/2022

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

☒ Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPW 76910 ANTIFOAM
Product code : BPW76910

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

Identified uses : Antifoam.

Print date : 9/3/2024

Validation date : 9/3/2024

Version : 5

Supplier's details : Baker Petrolite LLC
 12645 W. Airport Blvd.
 Sugar Land, TX 77478
 For Product Information/SDSs Call: 800-231-3606
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
 Baker Petrolite: 800-231-3606
 (001)281-276-5400
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :  SKIN IRRITATION - Category 2
 EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 2
 AQUATIC HAZARD (ACUTE) - Category 1
 AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms



Signal word :  Warning

Hazard statements :  Causes skin irritation.
 Causes serious eye irritation.
 Suspected of causing cancer.
 Very toxic to aquatic life.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :  Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear protective clothing. Wear eye or face protection. Avoid release to the environment. Wash thoroughly after handling.

Section 2. Hazards identification

- Response** : Collect spillage. IF exposed or concerned: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Avoid contact with skin and clothing. Wash thoroughly after handling.
- Hazards not otherwise classified** : Prolonged or repeated contact may dry skin and cause irritation.

Additional information

May be harmful if ingested. This product may be aspirated into the lungs during swallowing or vomiting of swallowed material. Aspiration into the lungs may produce chemical pneumonitis, pulmonary edema, and hemorrhaging. Repeated or prolonged contact may cause dermatitis (inflammation) and defatting of the skin (dryness).

Mixing of chemicals may create a reaction hazardous to one's health, to the environment, or a potential fire hazard.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Paraffinic petroleum distillate	30 - 40	64742-55-8
Petroleum distillates	30 - 40	64742-53-6
A polyether	10 - 20	Trade secret.
Kerosene (petroleum)	10 - 20	8008-20-6
Ethoxylated octylphenol	1 - 5	Trade secret.
Naphthalene	0.1 - 1	91-20-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain or irritation, watering, redness
- Inhalation** : No specific data.
- Skin contact** : Irritation, redness, dryness, cracking
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Additional information

If product is ingested and vomiting occurs naturally, have person lean forward to reduce the risk of aspiration into the lungs.

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Paraffinic petroleum distillate	ACGIH TLV (United States, 1/2024). [Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction ACGIH TLV (United States). TWA: 5 mg/m ³ Form: Inhalable fraction. NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m ³ 10 hours. Form: Mist STEL: 10 mg/m ³ 15 minutes. Form: Mist OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m ³ 8 hours.
Petroleum distillates	ACGIH TLV (United States, 1/2024). [Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction ACGIH TLV (United States). TWA: 5 mg/m ³ Form: Inhalable fraction. OSHA PEL (United States). TWA: 5 mg/m ³ Form: Inhalable fraction. NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m ³ 10 hours. Form: Mist STEL: 10 mg/m ³ 15 minutes. Form: Mist OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m ³ 8 hours.
A polyether	OARS WEEL (United States, 4/2022). TWA: 10 mg/m ³ 8 hours.
Kerosene (petroleum)	ACGIH TLV (United States, 1/2024). [Kerosene] Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor), 0 times per shift, 8 hours. NIOSH REL (United States, 10/2020). TWA: 100 mg/m ³ , 0 times per shift, 10 hours.
Ethoxylated octylphenol	None.
Naphthalene	ACGIH TLV (United States, 1/2024). Absorbed through skin. TWA: 52 mg/m ³ , 0 times per shift, 8 hours. TWA: 10 ppm, 0 times per shift, 8 hours. NIOSH REL (United States, 10/2020). STEL: 75 mg/m ³ , 0 times per shift, 15 minutes. STEL: 15 ppm, 0 times per shift, 15 minutes. TWA: 50 mg/m ³ , 0 times per shift, 10 hours. TWA: 10 ppm, 0 times per shift, 10 hours. OSHA PEL (United States, 5/2018). TWA: 50 mg/m ³ , 0 times per shift, 8 hours. TWA: 10 ppm, 0 times per shift, 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 75 mg/m ³ , 0 times per shift, 15 minutes. STEL: 15 ppm, 0 times per shift, 15 minutes. TWA: 50 mg/m ³ , 0 times per shift, 8 hours. TWA: 10 ppm, 0 times per shift, 8 hours. CAL OSHA PEL (United States, 5/2018). Absorbed through skin. TWA: 0.5 mg/m ³ 8 hours.

Section 8. Exposure controls/personal protection

TWA: 0.1 ppm 8 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Biological exposure indices

Ingredient name	Exposure indices
1-naphthalene	ACGIH BEI (United States, 1/2024) BEI: Nonquantitative: Biological monitoring should be considered for this compound based on the review; however, a specific BEI® could not be determined due to insufficient data., 1-naphthol + 2-naphthol [(sample not specified)]. Sampling time: end of shift.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves.

Skin protection : Wear long sleeves to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear to hazy.]

Color : Yellow. [Light]

Odor : Aromatic hydrocarbon. [Slight]

Odor threshold : Not available.

pH : 4.3 to 5.3 [Conc. (% w/w): 1%]
5% of product in 75% isopropanol / 25% water solution

Melting point/freezing point : <0°C (<32°F)

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Section 9. Physical and chemical properties and safety characteristics

Flash point	: Closed cup: >93.9°C (>201°F) [SFCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 0.12 kPa (0.89 mm Hg) @ 21.1°C (Calculated Value for all Components.)
Relative vapor density	: >1 [Air = 1]
Relative density	: 0.8928 (15.6°C)
Density	: 7.44 (lbs/gal)
Solubility in water	: Insoluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (15.6°C): 34 cP
VOC	: Not available.
Pour Point	: -15°C (5°F)
<u>Particle characteristics</u>	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Slightly reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Paraffinic petroleum distillate	LC50 Inhalation Dusts and mists	Rat	3900 mg/m ³	4 hours
Petroleum distillates	LC50 Inhalation Dusts and mists	Rat	2180 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
A polyether	LD50 Dermal	Rabbit	20000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>15000 mg/kg	-
Kerosene (petroleum)	LC50 Inhalation Dusts and mists	Rat	>5.68 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	>6.03 mg/l	4 hours
	LD50 Dermal	Rabbit	>4000 mg/kg	-
	LD50 Oral	Rat	15 g/kg	-
	LD50 Oral	Rat	>20000 mg/kg	-
Ethoxylated octylphenol	LD50 Oral	Mouse	3500 mg/kg	-
	LD50 Oral	Rat	4190 mg/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Petroleum distillates	-	3	-
Kerosene (petroleum)	-	3	-
Naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Kerosene (petroleum)	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Name	Result
Paraffinic petroleum distillate	ASPIRATION HAZARD - Category 1
Petroleum distillates	ASPIRATION HAZARD - Category 1
Kerosene (petroleum)	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes skin irritation. Defatting to the skin.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain or irritation, watering, redness
Inhalation : No specific data.
Skin contact : Irritation, redness, dryness, cracking
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPW 76910 ANTIFOAM	24172.1	Not available.	Not available.	Not available.	Not available.
Petroleum distillates	Not available.	2500	Not available.	Not available.	Not available.
A polyether	2500	20000	Not available.	Not available.	Not available.
Kerosene (petroleum)	15000	2500	Not available.	Not available.	Not available.
Ethoxylated octylphenol	500	Not available.	Not available.	Not available.	Not available.
Naphthalene	500	Not available.	Not available.	Not available.	Not available.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPW 76910 ANTIFOAM A polyether Kerosene (petroleum) Ethoxylated octylphenol Naphthalene	Acute LC50 0.43 mg/l	Daphnia	48 hours
	Acute LC50 4.76 mg/l	Daphnia	48 hours
	Acute LC50 268.2 mg/l	Fish	96 hours
	Acute LC50 650000 µg/l Marine water	Fish - <i>Menidia beryllina</i>	96 hours
	Acute EC50 >5000 mg/l Marine water	Algae - <i>Skeletonema costatum</i>	72 hours
	Acute EC50 2216 mg/l Marine water	Crustaceans - <i>Arcatia tonsa</i>	48 hours
	Acute LC50 >1000 mg/l Marine water	Fish - <i>Cyprinodon variegatus</i>	96 hours
	Acute EC50 210 µg/l Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i>	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - <i>Pandalus montagu</i> - Adult	48 hours
	Acute LC50 8600 to 9800 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	EC50 2.96 mg/l Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i>	96 hours
	EC50 2.16 mg/l Fresh water	Daphnia	48 hours
	LC50 1.6 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
A polyether Kerosene (petroleum) Naphthalene	-0.68 to 0.01	-	Low
	3.23 to 4.57	-	Low
	3.4	36.5 to 168	Low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3082	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Kerosene (petroleum))	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Kerosene (petroleum))	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains: Kerosene (petroleum))	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Kerosene (petroleum))
Transport hazard class(es)	9  	9  	9  	9  
Packing group	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes.

Additional information

DOT Classification	Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. This product is not regulated as a hazardous material when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. Remarks This material is Not Regulated if transported in a package that does not meet or exceed the Reportable Quantity (RQ).
TDG Classification	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark). Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.
IMDG	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
IATA	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.
Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to IMO instruments	Not available.
DOT Reportable Quantity	Not applicable.
Marine pollutant	Kerosene (petroleum) Ethoxylated octylphenol
North-America NAERG	171

Section 15. Regulatory information

U.S. Federal regulations : TSCA 12(b) one-time export: No products were found.
 TSCA 12(b) annual export notification: No products were found.
 United States inventory (TSCA 8b): All components are active or exempted.

 Clean Water Act (CWA) 307: naphthalene

 Clean Water Act (CWA) 311: naphthalene

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
 United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Naphthalene	Naphthalene	0.1 - 1

SARA 302/304 : No products were found.

SARA 311/312

Classification :  SKIN IRRITATION - Category 2
 EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 2
 HNOC - Defatting irritant

SARA 313

	Product name	CAS number	%
Supplier notification	 Naphthalene	91-20-3	0.1 - 1

California Prop. 65

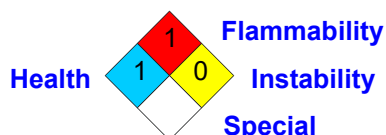
 **WARNING:** This product can expose you to naphthalene, which is known to the State of California to cause cancer.
 For more information go to www.P65Warnings.ca.gov.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 9/3/2024

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

 Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPW 76030 INORGANIC COAGULANT

Product code : BPW76030

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

Identified uses : Inorganic Coagulant.

Print date : 4/6/2023

Validation date : 1/4/2023

Version : 6.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Aluminum chloride hydroxide	20 - 30	12042-91-0
Polyalkylammonium chloride	5 - 10	Trade secret.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds, metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Aluminum chloride hydroxide	NIOSH REL (United States, 10/2020). Notes: as Al TWA: 2 mg/m ³ , (as Al), 0 times per shift, 10 hours. OSHA PEL 1989 (United States, 3/1989). Notes: as Al TWA: 2 mg/m ³ , (as Al), 0 times per shift, 8 hours.
Polyalkylammonium chloride	
	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves. Butyl rubber gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Yellow. [Light]
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : 3.7 to 4.7
- : Neat-without dilution.
- Melting point/freezing point** : -6.7°C (19.9°F)

Section 9. Physical and chemical properties

Initial Boiling Point	: Not available.
Boiling point, initial boiling point, and boiling range	: 100°C (212°F)
Flash point	: Closed cup: >93.4°C (>200.1°F) [TCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.18 (15.6°C)
Density	: 9.8294 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (-3.89°C): 230 cP
VOC	: Not available.
Pour Point	: Not available.
<u>Particle characteristics</u>	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials and alkalis. Avoid storage in mild steel and brass.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Aluminum chloride hydroxide	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	9187 mg/kg	-
Polyalkylammonium chloride	LD50 Oral	Rat	3 g/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Aluminum chloride hydroxide	9187	2500	Not available.	Not available.	Not available.
Polyalkylammonium chloride	3000	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPW 76030 INORGANIC COAGULANT Aluminum chloride hydroxide Polyalkylammonium chloride	Acute LC50 2.32 mg/l	Daphnia	48 hours
	Acute LC50 1.81 mg/l	Daphnia	48 hours
	Acute LC50 6.57 mg/l	Fish	96 hours
	Acute LC50 100 to 500 mg/l	Fish	48 hours
	Acute EC50 75 ppb Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.32 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 66 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

Section 15. Regulatory information

[SARA 302/304](#) : No products were found.

[SARA 311/312](#)

[Classification](#) : Not applicable.

[SARA 313](#)

[Supplier notification](#) : No products were found.

[California Prop. 65](#)

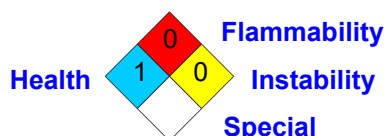
This product does not require a Safe Harbor warning under California Prop. 65.

[Canada](#)

[Canada \(CEPA DSL\):](#) : All components are listed or exempted.

Section 16. Other information

[National Fire Protection Association \(U.S.A.\)](#)



[History](#)

[Date of printing](#) : 4/6/2023

[Key to abbreviations](#)

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
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 UN = United Nations

Indicates information that has changed from previously issued version.

[Notice to reader](#)

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPW76453

Product code : BPW76453

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

Identified uses : Water clarifier.

Print date : 5/6/2024

Validation date : 5/6/2024

Version : 5

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Mixing of chemicals may create a reaction hazardous to one's health, to the environment, or a potential fire hazard.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
No hazardous ingredient		

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Amber.
- Odor** : No distinct odor.
- Odor threshold** : Not available.
- pH** : 5 to 7
- : Neat - without dilution.
- Melting point/freezing point** : -3°C (26.6°F)
- Initial Boiling Point** : Not available.

Section 9. Physical and chemical properties and safety characteristics

Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: >93.4°C (>200.1°F) [PMCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.04 (15.6°C)
Density	: 8.66 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (25°C): 1000 to 3000 cP
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials. Do not use iron, copper, or aluminum for transportation, handling, or storage.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
BPW76453	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rabbit Rat	>10000 ppm >10400 mg/kg >2000 mg/kg	4 hours - -

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPW76453	2500	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPW76453	Acute EC50 >10 mg/l Acute EC50 >10 mg/l	Daphnia Fish	48 hours 96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : Not applicable.

Section 15. Regulatory information

SARA 313

Supplier notification : No products were found.

California Prop. 65

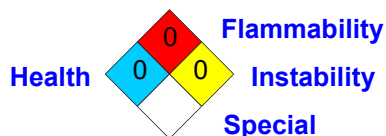
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 5/6/2024

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

📌 Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : SpectraFloc™ 692 FLOCCULANT
™ a trademark of Baker Hughes Incorporated.

Product code : SPC692

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

Identified uses : Flocculant.

Print date : 1/9/2023

Validation date : 1/9/2023

Version : 4.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Petroleum distillates	20 - 30	64742-47-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Petroleum distillates	ACGIH TLV (United States, 1/2022). Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor) 8 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Opaque.]
- Color** : Off-white.
- Odor** : Hydrocarbon. [Slight]
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : <-6.7°C (<19.9°F)
- Initial Boiling Point** : Not available.

Section 9. Physical and chemical properties

Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: >100°C (>212°F) [PMCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.03 (15.6°C)
Density	: 8.5799 (lbs/gal)
Solubility in water	: Dispersible
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Petroleum distillates	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Name	Result
Petroleum distillates	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 11. Toxicological information

Potential chronic health effects

- General** : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
SpectraFloc™ 692 FLOCCULANT	Acute LC50 0.15 mg/l	Daphnia	48 hours
	Acute LC50 0.23 mg/l	Daphnia	48 hours
Petroleum distillates	Acute LC50 0.9 mg/l	Fish	96 hours
	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days
	Acute LC50 2900 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

- Soil/water partition coefficient (K_{oc})** : Not available.

- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations

- Disposal methods** : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : Not applicable.

SARA 313

Supplier notification : No products were found.

California Prop. 65

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

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 1/9/2023

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.



SAFETY DATA SHEET

SDS00817
HYDROGEN PEROXIDE 50%

Preparation Date: 17/Jul/2020

Version: 3

1. IDENTIFICATION

Product identifier

Product Name HYDROGEN PEROXIDE 50%

Other means of identification

SDS Number SDS00817

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Oxidizing agent Bleach & water chemicals.

Restricted Uses No information available

Initial Supplier Identifier

Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC V6X 1W5
Telephone: 1-866-686-4827

Emergency telephone number

24 Hour Emergency Phone Number (CANUTEC): 1-888-226-8832 (1-888-CAN-UTEC)

2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Oxidizing liquids	Category 2
Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1
Sub-category A	
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Hazard pictograms**Signal Word: Danger****Hazard statements**

May intensify fire; oxidizer

Harmful if inhaled

Causes severe skin burns and eye damage

Harmful if swallowed

May cause respiratory irritation

Precautionary Statements**Prevention**

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Do not eat, drink or smoke when using this product

Keep away from heat

Keep/Store away from clothing/ combustible materials

Take any precaution to avoid mixing with combustibles

Response

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician

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

Continue rinsing

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

Store locked up

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Harmful to aquatic life with long lasting effects

Unknown acute toxicity

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical Name	CAS No	Weight-% (W/W)	Synonyms
Water	7732-18-5	30 - 60%	Water
Hydrogen Peroxide	7722-84-1	30 - 60%	Hydrogen Peroxide

Notes:

The actual percentage concentration has been withheld as a trade secret.

4. FIRST-AID MEASURES

Description of first aid measures**General advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed:

May cause conjunctivitis, corneal burns and permanent damage. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin. Corrosive Causes severe respiratory irritation. Ingestion of high concentrations causes rapid release of oxygen which may expand the esophagus or stomach resulting in severe damage (bleeding, ulceration or perforation). Expected to cause burns to the gastrointestinal tract. Symptoms may occur with delay. Toxic effects may be delayed. Vapors may cause pulmonary edema.

Indication of any immediate medical attention and special treatment needed:

Note to physicians

Hydrogen peroxide at this concentration is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Do not use CO2 extinguisher on this material; use only water spray or appropriate foam. Do not use organic compounds on this material.

Specific hazards arising from the substance or mixture

Contact with combustible materials may cause a fire. Release of oxygen may support combustion. Contact with incompatible materials (e.g. metals, alkalis and reducing agents) will cause hazardous decomposition resulting in the release of large quantities of heat, steam and oxygen gas. Exposure to heat may cause hazardous decomposition. A severe detonation hazard may exist when mixed with organic liquids, e.g. kerosene or gasoline. Stop leak only if safe to do so. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure build-up which could result in container rupture. Use flooding quantities of water. Stay upwind. Fight fire from a safe distance and from a protected location. Isolate and restrict area access. Strong oxidizer.

Hazardous combustion products

Oxygen. Steam.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE**Precautions for safe handling**

Corrosive. For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. Never use air pressure to empty a container. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed. Do not confine product in unvented vessels or between closed valves. Risk of overpressure and bursting due to decomposition in confined spaces and pipes. Store in a cool, dry, well ventilated area. Do not store near combustible materials. Do not store this material in containers made of light metals. Recommended container materials: glass, polyvinyl chloride, polyethylene, ceramics, polypropylene. Use adequate venting devices on all packages, containers and tanks and check correct operation periodically. Protect from direct sunlight and heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Limits**

Chemical Name	Alberta OEL	British Columbia OEL	Ontario	Quebec OEL	Exposure Limit - ACGIH	Immediately Dangerous to Life or Health - IDLH
Water 7732-18-5	Not available	Not available	Not available	Not available	Not available	Not available
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm TWA: 1.4 mg/m ³	TWA: 1 ppm	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	1 ppm TLV-TWA	75 ppm

Consult local authorities for recommended exposure limits

Appropriate engineering controls**Engineering controls**

Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Face protection shield.

Hand protection

Butyl rubber gloves. Natural rubber gloves. Nitrile gloves. Appropriate chemical resistant gloves should be worn.

Skin and body protection

Long sleeved clothing. Wear suitable protective clothing. Chemical resistant apron.

Respiratory protection

If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

Physical state	Liquid
Color	Clear Colorless
Odor	Pungent
Odor threshold	No information available

PROPERTIES	Values	Remarks • Method
pH	>1 - 3 (20°C)	
Melting point / freezing point	-52 °C / -62 °F	
Initial boiling point/boiling range	114 °C / 237 °F	
Flash point	No data available	None known
Evaporation rate	Faster than butyl acetate	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit:	No data available	
Lower flammability limit:	> 40	
Vapor pressure	2.99 hPa @ 25°C	
Relative vapor density	Heavier than air	
Specific Gravity	1.072 -1.241	
Water solubility	Completely miscible	
Solubility in other solvents	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	1.17 mPa.s @ 20°C	
Dynamic viscosity	No data available	None known
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Molecular weight	34.02 g/Mol	
VOC Percentage Volatility	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. STABILITY AND REACTIVITY

Reactivity/Chemical Stability

Stable

Possibility of hazardous reactions

This is a strong oxidizer and will react vigorously or explosively with many materials including fuels.

Hazardous polymerization

Will not occur.

Conditions to avoid

High temperatures. Spontaneous combustion hazard : - Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood, or other combustibles, can cause the material to ignite and result in a fire.

Incompatible materials

Combustible material. Alkalis. Organic materials. Heavy metals and their salts. Metals. Reducing agents.

Hazardous decomposition products

Oxygen. Steam.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

Harmful if inhaled. Vapors may cause pulmonary edema. Causes severe respiratory irritation. Toxic effects may be delayed.

Eye contact

Corrosive. May cause conjunctivitis, corneal burns and permanent damage. Symptoms may occur with delay.

Skin contact

Corrosive. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.

Ingestion

Harmful if swallowed. Ingestion of high concentrations causes rapid release of oxygen which may expand the esophagus or stomach resulting in severe damage (bleeding, ulceration or perforation). Expected to cause burns to the gastrointestinal tract.

Information on toxicological effects

Symptoms

Coughing and/ or wheezing. Redness. Burning. May cause blindness.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	3,036.00 mg/kg
ATEmix (inhalation-dust/mist)	3.00 mg/l

Unknown acute toxicity No information available

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	Not available	Not available
Hydrogen Peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Corrosive. May cause burns resulting in permanent damage. Prolonged exposure may cause severe irritation and white discoloration. Burning may result in localized erythema (redness) or even blistering of the skin.

Serious eye damage/eye irritation

Symptoms may occur with delay. Corrosive. May cause conjunctivitis, corneal burns and permanent damage.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Water 7732-18-5	Not available	Not available	Not available	Not available
Hydrogen Peroxide 7722-84-1	A3	Group 3	Not available	Not available

Legend**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity

It is not possible to conclude that hydrogen peroxide is mutagenic. Positive results have been obtained in cultured humans cells. Negative results have been obtained in relevant studies using live animals. Positive results have been obtained in short-term mutagenicity tests.

Specific target organ systemic toxicity - single exposure

May cause respiratory irritation.

Specific target organ systemic toxicity - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Ecotoxicity - Freshwater Algae Data	Ecotoxicity - Fish Species Data	Toxicity to microorganisms	Crustacea
Water 7732-18-5	Not available	Not available	Not available	Not available
Hydrogen Peroxide 7722-84-1	2.5 mg/L EC50 Chlorella vulgaris 72 h	10.0 - 32.0 mg/L LC50 (Oncorhynchus mykiss) 96 h static 18 - 56 mg/L LC50 (Lepomis macrochirus) 96 h static 16.4 mg/L LC50 (Pimephales promelas) 96 h	Not available	EC50: 18 - 32mg/L (48h, Daphnia magna) EC50: =7.7mg/L (24h, Daphnia magna)

Persistence and degradability No information available.**Bioaccumulation** No information available.

Chemical Name	Partition coefficient
Water 7732-18-5	Not available
Hydrogen Peroxide 7722-84-1	Not available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Do not reuse empty containers.

14. TRANSPORT INFORMATION

TDG (Canada):

UN Number UN2014
 Shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION
 Class 5.1 (8)
 Packing Group II
 Marine pollutant Not available.

DOT (U.S.)

UN Number UN2014
 Shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION
 Class 5.1 (8)
 Packing Group II
 Marine pollutant Not available

15. REGULATORY INFORMATION

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

U.S. Regulatory Rules

Chemical Name	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Water - 7732-18-5	Not Listed	Not Listed	Not Listed
Hydrogen Peroxide - 7722-84-1	Listed	Not Listed	Not Listed

International Inventories

TSCA

All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

DSL/NDSL

All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. OTHER INFORMATION

NFPA:	Health hazards 3	Flammability 0	Instability 1	Physical and chemical properties - Personal protection X
HMIS:	Health hazards 3	Flammability 0	Physical hazards 1	

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA Ceiling	TWA (time-weighted average) Maximum limit value	STEL *	STEL (Short Term Exposure Limit) Skin designation
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Prepared By: The Environment, Health and Safety Department of Univar Canada Ltd.

Preparation Date: 17/Jul/2020

Revision Date: 17/Jul/2020

Disclaimer

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End of Safety Data Sheet

Section 1. Identification

Product name : BPB 55608 OXYGEN SCAVENGER

Product code : BPB55608

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

Identified uses : Oxygen scavenger.

Print date : 12/22/2022

Validation date : 12/22/2022

Version : 3.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :  CORROSIVE TO METALS - Category 1
ACUTE TOXICITY (oral) - Category 4
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

GHS label elements

Hazard pictograms :   

Signal word : Danger

Hazard statements :  May be corrosive to metals.
Harmful if swallowed.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.

Precautionary statements

Section 2. Hazards identification

Prevention	: Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear respiratory protection. Keep only in original packaging. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
Response	: Absorb spillage to prevent material damage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.
Storage	: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in a corrosion resistant container with a resistant inner liner.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	30 - 40	7631-90-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In the event of any complaints or symptoms, avoid further exposure.
Skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma
- Skin contact** : irritation, redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Additional information

If product is ingested and vomiting occurs naturally, have person lean forward to reduce the risk of aspiration into the lungs.

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : sulfur oxides, metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** :  Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :  Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in a corrosion resistant container with a resistant inner liner. Store locked up. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	ACGIH TLV (United States, 1/2022). TWA: 5 mg/m ³ , 0 times per shift, 8 hours. NIOSH REL (United States, 10/2020). TWA: 5 mg/m ³ , 0 times per shift, 10 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ , 0 times per shift, 8 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves.

Skin protection : Wear long sleeves to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Yellow.

Odor : Pungent. Sulfur dioxide.

Odor threshold : Not available.

pH : 4.3 to 5.3 [Conc. (% w/w): 100%]
: Neat - without dilution.

Melting point/freezing point : Not available.

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : 104°C (219.2°F)

Flash point : Not available.

Section 9. Physical and chemical properties

Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 2.2 kPa (16.8 mm Hg) @ 21.1°C (Calculated Value for all Components.)
Relative vapor density	: <1 [Air = 1]
Relative density	: 1.336 (15.6°C)
Density	: 11.13 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
<u>Particle characteristics</u>	
Median particle size	: ☒ Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials and acids. Avoid strong mineral acids which will yield sulfur dioxide gas.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
BPB 55608 OXYGEN SCAVENGER	LD50 Oral	Rat	2000 mg/kg	-
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	LD50 Oral	Rat	1131 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	-	3	-

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact : May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma
Skin contact : irritation, redness
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : ☒ No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
☒ BPB 55608 OXYGEN SCAVENGER	2000	Not available.	Not available.	Not available.	Not available.
Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	1131	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
☒ Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt)	Acute EC50 140 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.94 ppm Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 26.2 ppm Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : ☒ Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN2693	UN2693	UN2693	UN2693
UN proper shipping name	BISULFITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))	BISULFITES, AQUEOUS SOLUTION, N.O.S. (Contains: Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt))
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

DOT Classification : **Reportable quantity** 12500 lbs / 5675 kg [1122.1 gal / 4247.8 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

IMDG : **Emergency schedules** F-A S-B

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity Sodium bisulfite (sodium hydrogensulfite, sulfurous monosodium salt), 1123 gal of this product.

Marine pollutant ☒ Not available.

North-America NAERG : 154

Section 15. Regulatory information

- U.S. Federal regulations** :
- TSCA 12(b) one-time export:** No products were found.
 - TSCA 12(b) annual export notification:** No products were found.
 - United States inventory (TSCA 8b):** All components are active or exempted.
 - Clean Water Act (CWA) 307:** No products were found.
 - Clean Water Act (CWA) 311:** Sodium bisulfite, solution

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

- Classification** :
- CORROSIVE TO METALS - Category 1
 - ACUTE TOXICITY (oral) - Category 4
 - RESPIRATORY SENSITIZATION - Category 1
 - SKIN SENSITIZATION - Category 1
 - SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313

Supplier notification : No products were found.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/22/2022

- Key to abbreviations** :
- ATE = Acute Toxicity Estimate
 - BCF = Bioconcentration Factor
 - GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 - IATA = International Air Transport Association
 - IBC = Intermediate Bulk Container
 - IMDG = International Maritime Dangerous Goods
 - LogPow = logarithm of the octanol/water partition coefficient
 - MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 - N/A = Not available
 - SGG = Segregation Group
 - UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : GUARDION™ 801 Antiscalant
™ a trademark of Baker Hughes Incorporated.

Product code : GRD801

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

Identified uses : Boiler Water Treatment.

Print date : 1/6/2023

Validation date : 1/6/2023

Version : 4.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : CORROSIVE TO METALS - Category 1
EYE IRRITATION - Category 2B
AQUATIC HAZARD (ACUTE) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : May be corrosive to metals.
Causes eye irritation.
Harmful to aquatic life.

Precautionary statements

Prevention : ☒ Keep only in original packaging. Avoid release to the environment. Wash thoroughly after handling.

Response : ☒ Absorb spillage to prevent material damage. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage : Store in a corrosion resistant container with a resistant inner liner.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Additional information

Corrosive to aluminum and steel.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Phosphonic acid compound	20 - 30	Trade secret.
Phosphonic acid compound	1 - 5	Trade secret.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: irritation, watering, redness
- Inhalation** : No specific data.

Section 4. First aid measures

- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, phosphorus oxides, halogenated compounds, metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in a corrosion resistant container with a resistant inner liner. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Phosphonic acid compound	None.
Phosphonic acid compound	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Colorless to light yellow.
- Odor** : None.
- Odor threshold** : Not available.
- pH** : 3
- Melting point/freezing point** : Neat - without dilution.
- Initial Boiling Point** : -15°C (5°F)
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : >100°C (>212°F)
- Burning time** : Closed cup: >93.4°C (>200.1°F)
- Burning rate** : Not applicable.
- Evaporation rate** : Not applicable.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : Not available.
- Density** : 1.22 (20°C)
- Solubility in water** : 10.16 (lbs/gal)
- Partition coefficient: n-octanol/water** : Soluble
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- VOC** : Not available.
- Pour Point** : Not available.
- Particle characteristics** : Not applicable.

Section 9. Physical and chemical properties

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, metals and acids.
Contact with some metals may produce hydrogen gas which is explosive and flammable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
GUARDION™ 801 Antiscalant	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Section 11. Toxicological information

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: irritation, watering, redness
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
GUARDION™ 801 Antiscalant	2500	2500	Not available.	Not available.	Not available.

Additional information

May contain traces of formaldehyde, which has been proven to be a carcinogen.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
GUARDION™ 801 Antiscalant	Acute EC50 20 to 28 mg/l	Algae	96 hours
	Acute EC50 297 to 555 mg/l	Daphnia	48 hours
	Acute LC50 >2400 mg/l	Fish	96 hours
	Acute LC50 >330 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) :  Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3265	UN3265	UN3265	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Phosphonic acid compound)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Phosphonic acid compound)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Phosphonic acid compound)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Phosphonic acid compound)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

IMDG : **Emergency schedules** F-A S-B

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : 153

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
☒ **United States inventory (TSCA 8b):** All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
☒ **Clean Water Act (CWA) 311:** Formaldehyde, solution

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
☒ United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Formaldehyde	Formaldehyde	0 - 0.1

SARA 302/304

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
☒ Formaldehyde	0 - 0.1	Yes.	500	6.7	100	1.3

SARA 311/312

Classification : CORROSIVE TO METALS - Category 1
 EYE IRRITATION - Category 2B

SARA 313

Supplier notification : No products were found.

California Prop. 65

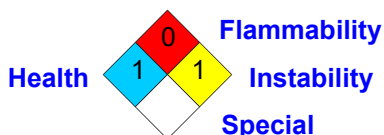
⚠ WARNING: This product can expose you to formaldehyde, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



Section 16. Other information

History

Date of printing : 1/6/2023

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

📌 Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPC 68950

Product code : BPC68950

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

Identified uses : Industrial Bactericide.

Print date : 12/30/2022

Validation date : 12/30/2022

Version : 5.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : CORROSIVE TO METALS - Category 1
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

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

Precautionary statements

Prevention : Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves. Butyl rubber gloves.. Wear protective clothing. Wear eye or face protection. Keep only in original packaging. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Section 2. Hazards identification

Response : Absorb spillage to prevent material damage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

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

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Additional information

Corrosive to aluminum and steel.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
2,2-Dibromo-3-nitrilopropionamide	10 - 20	10222-01-2
Sodium Bromide (NaBr)	1 - 5	7647-15-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.

Inhalation : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
Inhalation : Harmful if inhaled.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments : No specific treatment.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds, metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 5. Fire-fighting measures

Remark : Avoid temperatures above 70 degC (158 degF). Product may decompose and cause pressure in closed systems.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in a corrosion resistant container with a resistant inner liner. Store locked up. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Polyethylene glycol	OARS WEEL (United States, 1/2021).
2,2-Dibromo-3-nitrilopropionamide	TWA: 10 mg/m ³ 8 hours.
Sodium Bromide (NaBr)	None. None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves: Nitrile or Neoprene gloves. Butyl rubber gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Colorless to brown.
- Odor** : Odorless to Mild. [Slight]
- Odor threshold** : Not available.

Section 9. Physical and chemical properties

pH	: 1.5 to 5
	: Neat - without dilution.
Melting point/freezing point	: <-50°C (<-58°F)
Initial Boiling Point	: Not available.
Boiling point, initial boiling point, and boiling range	: >70°C (>158°F)
Flash point	: Closed cup: >93.4°C (>200.1°F) [SFCC] Open cup: >182°C (>359.6°F) [Cleveland]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 1.9 kPa (14.4 mm Hg) @ 21.1°C (Calculated Value for all Components.)
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.25 (15.6°C)
Density	: 10.4125 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: >70°C (>158°F)
Viscosity	: Dynamic (25°C): 20 cP
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, metals and alkalis. Corrosive to mild steel and aluminum.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
BPC 68950	LC50 Inhalation Dusts and mists	Rat - Female	1.25 mg/l	4 hours
	LC50 Inhalation Dusts and mists	Rat - Male	1.4 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	510 mg/kg	-
	LD50 Dermal	Rabbit	>20000 mg/kg	-
Polyethylene glycol 2,2-Dibromo- 3-nitrilopropionamide	LC50 Inhalation Dusts and mists	Rat - Female	0.24 mg/l	4 hours
	LC50 Inhalation Dusts and mists	Rat - Male	0.32 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Female rat	178 mg/kg	-
	LD50 Oral	Male rat	235 mg/kg	-
Sodium Bromide (NaBr)	LD50 Oral	Mouse	7000 mg/kg	-
	LD50 Oral	Rat	2500 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Sodium Bromide (NaBr)	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled.

Section 11. Toxicological information

- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPC 68950	510	2500	Not available.	Not available.	1.25
2,2-Dibromo-3-nitrilopropionamide	Not available.	2500	Not available.	Not available.	0.24
Sodium Bromide (NaBr)	2500	Not available.	Not available.	Not available.	Not available.

Additional information

Active ingredient did not cause cancer in laboratory animals. There is evidence that dibromoacetonitrile (DBAN), a possible degradation product of 2,2-dibromo- 3 nitrilopropionamide (DBNPA), can produce cancer in laboratory animals. However, the relevance of this to humans is unknown.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPC 68950	EC50 1.5 mg/l EC50 2.5 mg/l LC50 3.6 mg/l	Algae Daphnia Fish	72 hours 48 hours 96 hours
Polyethylene glycol	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours
2,2-Dibromo-3-nitrilopropionamide	Acute EC50 0.86 ppm Fresh water	Daphnia - Daphnia magna	48 hours
Sodium Bromide (NaBr)	Acute LC50 0.55 ppm Fresh water Chronic NOEC 0.47 ppm Acute EC50 8000000 µg/l Fresh water	Fish - Pimephales promelas Fish - Oncorhynchus mykiss Algae - Scenedesmus subspicatus - Exponential growth phase	96 hours 85 days 72 hours
	Acute EC50 6000000 µg/l Fresh water	Algae - Scenedesmus subspicatus - Exponential growth phase	96 hours
	Acute EC50 1000 ppm Fresh water Acute EC50 44000 µg/l Fresh water Chronic NOEC 2500000 µg/l Fresh water	Daphnia - Daphnia magna Fish - Poecilia reticulata Algae - Scenedesmus pannonicus - Exponential growth phase	48 hours 96 hours 72 hours
	Chronic NOEC 7.5 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 10000 µg/l Fresh water	Fish - Poecilia reticulata - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks

Persistence and degradability

Conclusion/Summary : This product is readily biodegradable.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Polyethylene glycol	-	3.2	low
2,2-Dibromo-3-nitrilopropionamide	0.82	-	low
Sodium Bromide (NaBr)	-	0.23	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Additional information

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans or other 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.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3265	UN3265	UN3265	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 2,2-Dibromo-3-nitrilopropionamide)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 2,2-Dibromo-3-nitrilopropionamide)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 2,2-Dibromo-3-nitrilopropionamide)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: 2,2-Dibromo-3-nitrilopropionamide)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

IMDG : **Emergency schedules** F-A S-B

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : 153

Section 15. Regulatory information

U.S. Federal regulations : TSCA 12(b) one-time export: No products were found.
 TSCA 12(b) annual export notification: No products were found.
 United States inventory (TSCA 8b): All components are active or exempted.
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : CORROSIVE TO METALS - Category 1
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (inhalation) - Category 4
 SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1

SARA 313

Supplier notification : No products were found.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : At least one component is not listed in DSL but all such components are listed in NDSL.

Additional information

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide ACT (FIFRA) and is therefore exempt from US Toxic Substance Control Act (TSCA) Inventory listing requirements.

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Following is the hazard information as required on the pesticide label:

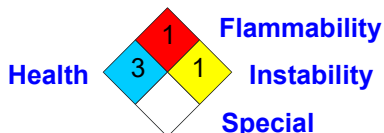
DANGER

Corrosive: Causes irreversible eye damage. May be fatal if inhaled or swallowed. Causes skin irritation. Do not get in eyes, on skin or on clothing. Do not breathe spray mist. When loading or handling wear protective eyewear (goggles or face shield with safety glasses), long sleeved shirt and long pants, socks, shoes, chemically resistant gloves and a NIOSH approved respirator. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing, separated from other laundry, before reuse.

This pesticide is toxic to fish and aquatic organisms.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Section 16. Other information

Date of printing	: 12/30/2022
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name	: GUARDION™ 401 CLEANER ™ a trademark of Baker Hughes Incorporated.
Product code	: GRD401
<u>Relevant identified uses of the substance or mixture and uses advised against</u>	
Identified uses	: Membrane cleaner.
Print date	: 1/6/2023
Validation date	: 1/6/2023
Version	: 4.01
Supplier's details	: Baker Petrolite LLC 12645 W. Airport Blvd. Sugar Land, TX 77478 For Product Information/SDSs Call: 800-231-3606 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400
Emergency telephone number (with hours of operation)	: CHEMTREC: 800-424-9300 (U.S. 24 hour) Baker Petrolite: 800-231-3606 (001)281-276-5400 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1
<u>GHS label elements</u>	
Hazard pictograms	: 
Signal word	: Danger
Hazard statements	: Causes severe skin burns and eye damage.
<u>Precautionary statements</u>	
Prevention	: Wear protective gloves: > 8 hours (breakthrough time): PVC gloves. Nitrile gloves.. Wear protective clothing. Wear eye or face protection. Wash thoroughly after handling.
Response	: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Store locked up.

Section 2. Hazards identification

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Potassium hydroxide	5 - 10	1310-58-3
Inorganic phosphates	5 - 10	Trade secret.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, phosphorus oxides, metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Potassium hydroxide	ACGIH TLV (United States, 1/2022). C: 2 mg/m ³ , 0 times per shift, 0 hours. NIOSH REL (United States, 10/2020). CEIL: 2 mg/m ³ , 0 times per shift, OSHA PEL 1989 (United States, 3/1989). CEIL: 2 mg/m ³ , 0 times per shift, 0 hours.
Inorganic phosphates	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves: PVC gloves. Nitrile gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Yellow.
- Odor** : None.
- Odor threshold** : Not available.
- pH** : >13
- : Neat - without dilution.
- Melting point/freezing point** : 0°C (32°F)
- Initial Boiling Point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : 1.18 (20°C)
- Density** : 9.83 (lbs/gal)
- Solubility in water** : Soluble
- Partition coefficient: n-octanol/water** : ☒ Not applicable.

Section 9. Physical and chemical properties

Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Highly reactive or incompatible with the following materials: combustible materials, organic materials, metals and moisture. Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. Corrosive to mild steel and aluminum.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

No available toxicity data.

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
GUARDION™ 401 CLEANER	8400	Not available.	Not available.	Not available.	Not available.
Potassium hydroxide	500	Not available.	Not available.	Not available.	Not available.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium hydroxide	Acute LC50 80 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Potassium hydroxide	0.65	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3266	UN3266	UN3266	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Potassium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Potassium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Potassium hydroxide)	CORROSIVE LIQUID, BASIC, INORGANIC, N. O.S. (Contains: Potassium hydroxide)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

Section 14. Transport information

- DOT Classification** : **Reportable quantity** 16000 lbs / 7264 kg [1626.2 gal / 6155.9 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).
- IMDG** : **Emergency schedules** F-A S-B
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- Transport in bulk according to IMO instruments** : Not available.
- DOT Reportable Quantity** Potassium hydroxide, 1628 gal of this product.
- Marine pollutant** Not available.

North-America NAERG : 154

Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: potassium hydroxide

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification : SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1

SARA 313

Supplier notification : No products were found.

California Prop. 65

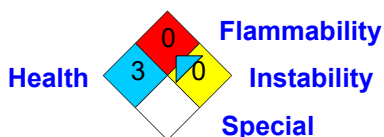
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Section 16. Other information

Date of printing : 1/6/2023

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

📌 Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : GUARDION™ 402 MEMBRANE CLEANER
™ a trademark of Baker Hughes Incorporated.

Product code : GRD402

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

Identified uses : Cleaner.

Print date : 1/6/2023

Validation date : 1/6/2023

Version : 2.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms : 

Signal word : Warning

Hazard statements :  Causes skin irritation.
Causes serious eye irritation.

Precautionary statements

Prevention :  Wear protective gloves. Wear eye or face protection. Wash thoroughly after handling.

Response :  Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
 Citric acid	40 - 50	77-92-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** :  Adverse symptoms may include the following: pain or irritation, watering, redness
- Inhalation** : No specific data.
- Skin contact** : irritation, redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : carbon dioxide, carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Citric acid	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Hand protection** : Chemical-resistant gloves.
- Skin protection** : Wear long sleeves to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	: Liquid. [Clear.]
Color	: Water-white.
Odor	: Not available.
Odor threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Initial Boiling Point	: Not available.
Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: >93.4°C (>200.1°F) [Estimated]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: >1 [Air = 1]
Relative density	: 1.24 (25°C)
Density	: 10.33 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: ☒ Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.

Particle characteristics

Median particle size	: ☒ Not applicable.
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Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials and alkalis.

Section 10. Stability and reactivity

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Citric acid	LD50 Oral	Rat	3 g/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following: pain or irritation, watering, redness
- Inhalation** : No specific data.
- Skin contact** : irritation, redness
- Ingestion** : No specific data.

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : ☒ No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
☒ Citric acid	3000	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
☒ Citric acid	Acute LC50 160000 µg/l Marine water	Crustaceans - Carcinus maenas - Adult	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
☒ Citric acid	-1.8	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : ☒ Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
☒ **United States inventory (TSCA 8b):** All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.
SARA 311/312

Section 15. Regulatory information

Classification : SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

SARA 313

Supplier notification : No products were found.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 1/6/2023

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : BPR 81156R NEUTRALIZER
Product code : BPR81156R

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

Identified uses : Neutralizer.

Print date : 12/30/2022

Validation date : 12/30/2022

Version : 3.01

Supplier's details : Baker Petrolite LLC
 12645 W. Airport Blvd.
 Sugar Land, TX 77478
 For Product Information/SDSs Call: 800-231-3606
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
 Baker Petrolite: 800-231-3606
 (001)281-276-5400
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 4
 ACUTE TOXICITY (dermal) - Category 4
 ACUTE TOXICITY (inhalation) - Category 3
 SKIN CORROSION - Category 1
 SERIOUS EYE DAMAGE - Category 1
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :  Combustible liquid.
 Harmful in contact with skin.
 Causes severe skin burns and eye damage.
 Toxic if inhaled.
 May cause respiratory irritation.

Precautionary statements

Section 2. Hazards identification

Prevention	:  Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves.. Wear protective clothing. Wear eye or face protection. Keep away from flames and hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash thoroughly after handling.
Response	:  IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	:  Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
 Alkanolamine	70 - 80	108-01-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
Inhalation	: Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled. May cause respiratory irritation.
- Skin contact** : Causes severe burns. Harmful in contact with skin.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : respiratory tract irritation, coughing
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, nitrogen oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in original container, protected from direct sunlight. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Alkanolamine	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear.]

Color : Colorless.

Odor : Amine like. [Strong]

Odor threshold : Not available.

pH : 11

Section 9. Physical and chemical properties

	: Neat - without dilution.
Melting point/freezing point	: Not available.
Initial Boiling Point	: 100°C (212°F)
Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: 61°C (141.8°F) [SFCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 0.11 kPa (0.8 mm Hg) @ 21.1°C (Calculated Value for all Components.)
Relative vapor density	: >1 [Air = 1]
Relative density	: 0.9577 (15.6°C)
Density	: 7.98 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (4.4°C): 40 cP
VOC	: Not available.
Pour Point	: <-42.8°C (<-45°F)
Particle characteristics	
Median particle size	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Alkanolamine	LC50 Inhalation Vapor	Rat	1641 ppm	4 hours
	LD50 Dermal	Rabbit	1.22 g/kg	-
	LD50 Oral	Female rat	1210 mg/kg	-
	LD50 Oral	Rat	2 g/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Alkanolamine	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Toxic if inhaled. May cause respiratory irritation.
Skin contact : Causes severe burns. Harmful in contact with skin.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : respiratory tract irritation, coughing
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : ☒ No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BPR 81156R NEUTRALIZER	2840.9	1562.5	Not available.	4.3	Not available.
Alkanolamine	2000	1100	Not available.	3	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BPR 81156R NEUTRALIZER	Acute EC50 19 mg/l Acute EC50 47 mg/l Acute EC50 45 mg/l Acute EC50 41.7 mg/l Marine water Acute LC50 132 mg/l	Algae - Daphnia magna Daphnia - Ceriodaphnia dubia Daphnia - Daphnia pulex Micro-organism - Vibrio fischeri Fish - Pimephales promelas	48 hours 48 hours 48 hours 15 minutes 96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Alkanolamine	-0.55	-	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3267	UN3267	UN3267	UN3267
UN proper shipping name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O. S. (Contains: Alkanolamine)	CORROSIVE LIQUID, BASIC, ORGANIC, N.O. S. (Contains: Alkanolamine)	CORROSIVE LIQUID, BASIC, ORGANIC, N.O. S. (Contains: Alkanolamine)	CORROSIVE LIQUID, BASIC, ORGANIC, N.O. S. (Contains: Alkanolamine)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

IMDG : **Emergency schedules** F-A S-B

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : 153

Section 15. Regulatory information

- U.S. Federal regulations** :
- TSCA 12(b) one-time export:** No products were found.
 - TSCA 12(b) annual export notification:** No products were found.
 - United States inventory (TSCA 8b):** All components are active or exempted.
 - Clean Water Act (CWA) 307:** No products were found.
 - Clean Water Act (CWA) 311:** No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

- Classification** :
- FLAMMABLE LIQUIDS - Category 4
 - ACUTE TOXICITY (dermal) - Category 4
 - ACUTE TOXICITY (inhalation) - Category 3
 - SKIN CORROSION - Category 1
 - SERIOUS EYE DAMAGE - Category 1
 - SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313

- Supplier notification** : No products were found.

California Prop. 65

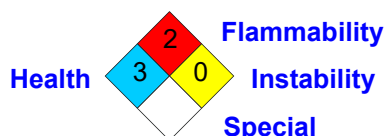
This product does not require a Safe Harbor warning under California Prop. 65.

Canada

- Canada (CEPA DSL):** : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

- Date of printing** : 12/30/2022

Key to abbreviations

- :
- ATE = Acute Toxicity Estimate
 - BCF = Bioconcentration Factor
 - GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 - IATA = International Air Transport Association
 - IBC = Intermediate Bulk Container
 - IMDG = International Maritime Dangerous Goods
 - LogPow = logarithm of the octanol/water partition coefficient
 - MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 - N/A = Not available
 - SGG = Segregation Group
 - UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Section 1. Identification

Product name : EXCALIBUR™ 7760 ADDITIVE
™ a trademark of Baker Hughes Incorporated.

Product code : EXCAL7760

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

Identified uses : Use as a process additive

Print date : 1/17/2023

Validation date : 1/17/2023

Version : 11

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
AQUATIC HAZARD (ACUTE) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.
Harmful to aquatic life.

Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment. Wash thoroughly after handling.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON

Section 2. Hazards identification

- CENTER or doctor.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Organic acid	60 - 70	Trade secret.
Amine derivative	0.1 - 1	Trade secret.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Additional information

Any concentration shown as a range is to protect confidentiality.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.

Section 4. First aid measures

- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : Adverse symptoms may include the following: stomach pains

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Organic acid	None.
Amine derivative	None.

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear to hazy.]

Color : Light yellow to Dark Amber.

Odor : Acidic.

Odor threshold : Not available.

pH : 1.7

: Neat - without dilution.

Melting point/freezing point : Not available.

Initial Boiling Point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: >100°C (>212°F) [SFCC]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : Not available.

Relative vapor density : >1 [Air = 1]

Relative density : 1.1635 (15.6°C)

Section 9. Physical and chemical properties

Density	: 9.69 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (15.6°C): 15 cP

VOC	: Not available.
Pour Point	: <-42.778°C (<-45°F)

Particle characteristics

Median particle size	: Not applicable.
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Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
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Chemical stability	: The product is stable.
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Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
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Conditions to avoid	: No specific data.
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Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
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Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Organic acid	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Mouse	4875 mg/kg	-
	LD50 Oral	Rat	3543 mg/kg	-
Amine derivative	LD50 Dermal	Rat	>2000 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

Section 11. Toxicological information

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Organic acid	3543	2500	Not available.	Not available.	Not available.
Amine derivative	Not available.	2500	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
EXCALIBUR™ 7760 ADDITIVE	Acute EC50 15.2 mg/l	Daphnia - Ceriodaphnia dubia	48 hours
Amine derivative	Acute EC50 12.3 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 56.6 mg/l	Fish - Pimephales promelas	96 hours
	Acute EC50 0.22 mg/l Marine water	Algae - Skeletonema costatum	72 hours
	Acute LC50 2.9 mg/l Marine water	Crustaceans - Acartia tonsa	48 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
EXCALIBUR™ 7760 ADDITIVE	OECD 301D Ready Biodegradability - Closed Bottle Test	86 % - 28 days	2.5 mg/l	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
EXCALIBUR™ 7760 ADDITIVE	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Organic acid	-0.72	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3265	UN3265	UN3265	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Organic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Organic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Organic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Organic acid)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : 153

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export:** No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

Section 15. Regulatory information

List name	Status	Ingredient name	Name on list	Conc.
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	0.1 - 1

[SARA 302/304](#) : No products were found.

[SARA 311/312](#)

Classification : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

[SARA 313](#)

Supplier notification : No products were found.

[California Prop. 65](#)

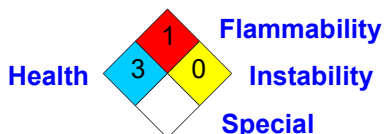
⚠ WARNING: This product can expose you to methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

[Canada](#)

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

[National Fire Protection Association \(U.S.A.\)](#)



[History](#)

Date of printing : 1/17/2023

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

📌 Indicates information that has changed from previously issued version.

[Notice to reader](#)

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Attachment L

Laboratory Information

Worksheet 2.0 Pg. 19, 1.c

Worksheet 7.0 Pg. 60

Worksheet 2.0 – Pollutant Analyses Requirements

Outfall 001

Eurofins Corpus Christi
1733 N. Padre Island Drive
Corpus Christi, TX 78408
(210) 344-9751

All samples analyzed by this laboratory except for temperature, pH, total chromium, trivalent chromium, and hexavalent chromium, and available cyanide.

Pace Analytical National
12065 Lebanon Road
Mount Juliet, TN 37122
(615) 758-5858

Total, trivalent, and hexavalent chromium results.

Valero Main Lab
1147 Cantwell Ln.
Corpus Christi, TX 78407
(361)-289-6000
Cyanide, Total results, temperature, and pH

Worksheet 7.0 – Stormwater Discharges Associated with Industrial Activities

Outfall 002 and Outfall 003

Eurofins Corpus Christi
1733 N. Padre Island Drive
Corpus Christi, TX 78408
(210) 344-9751

All samples analyzed by this laboratory.

Outfall 005

Eurofins Corpus Christi
1733 N. Padre Island Drive
Corpus Christi, TX 78408
(210) 344-9751

All samples analyzed by this laboratory except total, trivalent, and hexavalent chromium

Pace Analytical National
12065 Lebanon Road
Mount Juliet, TN 37122
(615) 758-5858

Total, trivalent, and hexavalent chromium results.

Attachment M

**Supplemental Information for Valero 2025 TPDES
Permit Renewal Application**

Cover Letter

Memo

To: Bailey Sutherlin, Valero Corpus Christi Refineries
CC: Faren Von Duben, Meagan Marquard, Valero Corpus Christi Refineries
From: Ashley Romero, Sarah Skigen-Caird, and Thomas Daigle, GEI Consultants, Inc.
Date: October 3, 2025
Re: Summary results for screening and reasonable potential analysis for outfalls at the Valero Refining East Plant

1. Background

On behalf of the Valero Refining Company (Valero), GEI Consultants, Inc. (GEI) performed a screening procedure and reasonable potential (RP) analysis in order to support the renewal of Texas Pollutant Discharge Elimination System (TPDES) permit number WQ0000465000 issued for the discharge from external outfalls 001 and 004, and stormwater outfalls 002, 003, and 005 at the Valero Refining East Plant located in Nueces County, Texas. The analysis involved assessment of the effluent data in accordance with the methodology outlined in the Texas Commission on Environmental Quality (TCEQ) guidance document to ascertain which parameters may exhibit RP to exceed the appropriate effluent limitations to help inform the need for permit limits.

Outfall 001 discharges directly to Regulatory Segment 2484 for the Corpus Christi Inner Harbor which is an estuary within the Bays and Estuaries Classification. The designated uses for Segment 2484 are Noncontact Recreation and Intermediate Aquatic Life Use. Outfalls 002, 003, 004, and 005 discharge to a series of unnamed ditches, thence to an unnamed tidal ditch, thence to Corpus Christi Inner Harbor, Segment 2484. Two datasets were used for the analysis summarized in this memo. Discharge monitoring report (DMR) data for a period of five years were used for comparison to the current permitted limitations for all outfalls. As required in Worksheets 2.0 for outfall 001 and 7.0 for outfalls 002, 003, and 005 of the permit renewal application, all applicable parameters analyzed no more than 12 months prior to the date of application submittal were used for the screening analysis. Outfall 004 has not discharged since February 2024; therefore, more recent data could not be provided for the screening analysis.

2. Effluent Data Analysis

The DMR data for the period of January 2020 through July 2025 were evaluated for all outfalls to determine whether there were any exceedances of the permit limitations for the current permit term. The average of all daily average values and the individual maximum values for each reporting period were calculated for each outfall and are summarized in Tables 1 and 2.



Table 1. Summary of Outfall 001 permit limitations and discharge monitoring report (DMR) data results. Parameters in red indicate an exceedance of the permit limit. MGD – millions of gallons per day, SU – standard units, lbs/day – pounds per day, mg/l – milligrams per liter.

Outfall	Parameter	Permit Limit				DMR Results			
		Daily Average		Daily Maximum		Average of Daily Average		Maximum of Daily Maximum	
		lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L
001	Flow (MGD)	3.0		4.0		1.46		2.81	
	Temperature (°F)	N/A		105		N/A		103.6	
	Biochemical Oxygen Demand, 5-day (BOD ₅)	418	N/A	752	Report	71.9	N/A	3,061	266
	Ammonia as Nitrogen	278	N/A	612	Report	17.3	N/A	448	71.7
	pH (SU)	6.0 (minimum)		9.0		6.70		10.0*	

*A pH excursion is not a violation provided the range of 5-11 SU is not exceeded.

Table 2. Summary of outfalls 002, 003, 004, and 005 permit limitations and discharge monitoring report (DMR) data results. Parameters in red indicate an exceedance of the permit limit. MGD – millions of gallons per day, SU – standard units, mg/l – milligrams per liter.

Parameter	Outfall	Permit Limit		DMR Results	
		Daily Average	Daily Maximum	Average of Daily Average	Maximum of Daily Maximum
		mg/L	mg/L	mg/L	mg/L
Flow (MGD)	002	Report	Report	1.37	3.58
	003	Report	Report	0.927	2.37
	004	0.325*	Report	0.038	0.192
	005	Report	Report	1.04	3.32
Total Organic Carbon (TOC)	002	N/A	55	--	18.8
	003	N/A	55	--	14.4
	004	N/A	55	--	161
	005	N/A	55	--	21.4
	002	N/A	15	--	3.45



Parameter	Outfall	Permit Limit		DMR Results	
		Daily Average	Daily Maximum	Average of Daily Average	Maximum of Daily Maximum
		mg/L	mg/L	mg/L	mg/L
Oil and Grease	003	N/A	15	--	5.9
	004	N/A	15	--	29.6
	005	N/A	15	--	3.56
pH (SU)	002	6.0 (minimum)	9.0	6.51	8.73
	003	6.0 (minimum)	9.0	6.67	9.0
	004	6.0 (minimum)	9.0	6.20	8.90
	005	6.0 (minimum)	9.0	6.29	8.40

*Dry-weather flow.

For Outfall 001, a review of the DMR dataset from January 2020 through July 2025 indicated there were two exceedances of the permitted daily maximum limit for BOD₅ of 752 mg/L. One exceedance occurred in the February 2021 monthly reporting period, with a value of 2,033 mg/L, and the second exceedance occurred in the May 2022 monthly reporting period, with a value of 3,061 mg/L. However, an exceedance has not occurred since May 2022, and the events appear to be intermittent and isolated. For Outfall 004, a review of the DMR dataset from January 2020 through February 2024 indicated there was only one exceedance of the permitted daily maximum limit for TOC of 55 mg/L, and Oil and Grease of 15 mg/L. The exceedance for TOC occurred in the May 2020 monthly reporting period with a value of 161 mg/L, and the exceedance for Oil and Grease occurred in the June 2020 monthly reporting period with a value of 29.6 mg/L. However, no other exceedances occurred for either parameter and Outfall 004 has not discharged since the February 2024 monthly reporting period. The permitted parameters for outfalls 002, 003, and 005 were not exceeded in the May 2020 through July 2025 monthly reporting period.

3. Reasonable Potential Analysis

3.1 Methods

For Outfall 001, water quality-based effluent limitation (WQBEL) calculations were performed on all parameters with associated saltwater aquatic life criteria provided in the TCEQ's *Texas Surface Water Quality Standards* (Standards; TCEQ 2022). The WQBEL calculations of the parameters with human health – fish only aquatic life criteria were also completed. All calculations followed the *Procedures to Implement the Texas Surface Water Quality Standards* (IPs; TCEQ 2010). The procedure first develops WQBELs for aquatic life protection by



calculating the effluent fraction at the edge of the mixing zone (MZ) and zone of initial dilution (ZID). The minimum effluent percentages used were 8% at the edge of the MZ and 30% at the edge of the ZID for discharges that are 10 millions of gallons per day (MGD) or less into bays, estuaries, and wide tidal rivers.

The acute waste load allocation (WLAa) and chronic waste load allocation (WLAc) were calculated using criteria outlined in the Standards, the proportion of effluent at the edge of the ZID and MZ, respectively, and linear partition coefficients for metals, when applicable, using a segment-specific total suspended solids (TSS) value of 10 mg/L. The acute long-term average (LTAa) and chronic long-term average (LTAc) can then be calculated from the corresponding WLAs using a lognormal probability distribution factor (Z), a 99% confidence level, and a coefficient of variation (CV) of 0.6. The resulting LTAa and LTAc are then compared to determine the more conservative value. The lower of the two LTAs is then used to calculate the daily average and daily maximum limits using the same 99% confidence level, a CV of 0.6, and a standard number of monthly effluent samples (12). The procedure used to determine aquatic life WQBELs was also used for determining human health WQBELs, however a MZ of 4% was used to calculate the WLAh and only one long-term average (LTAh) was calculated from the WLAh at the 99% confidence level.

According to the IPs for stormwater discharges subject to TPDES permit requirements, including discharges associated with industrial activities, the screening process is different from the procedures outlined for wastewater discharges due to the intermittent nature of stormwater discharges which occur during wet weather conditions. Generally, stormwater permits do not contain numerical effluent limits based on water quality criteria (TCEQ 2010). The Standards state that the implementation of best management practices (BMPs) and technology-based effluent limits (TBELs) provide the basis of controls on the quality of intermittent stormwater discharges (TCEQ 2022). However, the fact sheet from the previous permit renewal cycle compared stormwater quality of Outfalls 002, 003, and 005 to the allowable concentrations of metals found in Texas Administrative Code (TAC) for Quality Levels – Inland Waters (30 TAC 319.22) and Quality Levels – Tidal Waters (30 TAC 319.23) to ensure concentrations are not exceeded (TCEQ 2020). Therefore, this analysis was conducted for the current permit renewal cycle.

3.2 Results

3.2.1 Outfall 001 Results

For Outfall 001, samples were collected in July and August 2025 to be analyzed for all applicable parameters required in Worksheet 2.0 of the permit renewal application. A screening analysis was conducted for 12 metals, one nutrient, and 58 organic compounds that had corresponding aquatic life and/or human health criteria. Four datasets for each parameter were evaluated, and the average concentration of the effluent data were compared to the calculated daily average effluent limit and evaluated in the following manner in accordance with the IPs:



- If the average of the effluent data equals or exceeds 70%, but is less than 85% of the calculated daily average limit, monitoring for the toxic pollutant will usually be included as a condition in the permit.
- If the average of the effluent data is equal to or greater than 85% of the calculated daily average limit, the permit will generally contain effluent limits for the toxic pollutant. The permit may specify a compliance period to achieve this limit, if necessary.

Also, in accordance with the IPs, when all data for a given analyte were below the reported detectable level, and the reported detectable level is less than the minimum analytical level (MAL) developed by the TCEQ, the value of zero was used for all calculations. When a dataset for a given analyte had both detectable and nondetectable concentrations, the nondetectable concentrations were averaged as one-half the reported nondetectable levels.

All of the parameters were below the MAL for all sample events except for two parameters, mercury and arsenic. All data were detectable for arsenic but did not exceed the calculated daily average limit and is therefore not expected to create any risk to aquatic life. There was one detectable value and three nondetectable values for mercury above the MAL, however, analysis with half of the higher detection limit for the nondetectable values did not exceed the calculated daily average limit and is therefore not expected to create any risk to aquatic life or human health. The average effluent data for all other evaluated parameters did not exceed 70% of the calculated daily average WQBELs for aquatic life or human health. Ultimately, this analysis indicates that no additional limits or monitoring requirements should be added to the permit for Outfall 001.

3.2.2 Outfall 002, 003, and 005 Results

For outfalls 002, 003, and 005, samples were collected in May, June, and July 2025 to be analyzed for all applicable parameters required in Worksheet 7.0 of the permit renewal application. A screening analysis was conducted for 11 metals that had corresponding allowable concentrations of metals for inland and tidal waters (Table 3). One result for each parameter was evaluated for outfalls 002 and 003 and compared directly to the allowable concentrations while two results were available for Outfall 005 and the average of the two results were used for comparison purposes.

All of the parameters were below the MAL for all sample events and outfalls except for two parameters, mercury and arsenic. All data were detectable for arsenic but did not exceed the allowable inland or tidal concentrations and therefore is not expected to create any risk. All data were nondetectable for mercury, and the higher detection limit was well below the allowable concentrations for inland and tidal waters, and therefore, is not expected to create any risk. There were no exceedances of the allowable concentrations for inland and tidal waters for any of the other nine (9) metals evaluated for all three outfalls. Ultimately, this analysis indicates that no additional limits or monitoring requirements should be added to the permit for outfalls 002, 003, or 005.

**Table 3. Metals parameters evaluated for reasonable potential (RP).**

Arsenic, total	Manganese, total
Barium, total	Mercury, total
Cadmium, total	Nickel, total
Chromium, total	Selenium, total
Copper, total	Silver, total
Lead, total	Zinc, total

Whole Effluent Toxicity

Chronic marine biomonitoring requirements are incorporated in the current permit for Outfall 001 and include quarterly, chronic static-renewal tests using the *Mysidopsis bahia* and *Menidia beryllina* species. Testing was conducted from March 2020 to March 2023 and included the full dilution series indicated in the permit with a critical dilution concentration of 8% effluent. There were no significant effects on survival or growth for either species in that timeframe. Therefore, according to the EPA's Enforcement and Compliance History Online website (ECHO), a reduction in the testing frequency to once per six months for the *M. bahia* species and once per year for the *M. beryllina* species became effective in May of 2023. A total of four tests using the *M. bahia* species and one test using the *M. beryllina* species have been conducted since the reduced testing frequency became effective through June 2025 and have continued to demonstrate no significant toxicity on survival or growth for either species.

Ashley Romero, Water Quality Scientist

Sarah Skigen-Caird, Vice President/
Ecology Division Manager

References

- Texas Commission on Environmental Quality (TCEQ). 2010. Procedures to Implement the Texas Surface Water Quality Standards. RG-194. June 2010.
- Texas Commission on Environmental Quality (TCEQ). 2020. Fact Sheet and Executive Director's Preliminary Decision. March, 23, 2020.
- Texas Commission on Environmental Quality (TCEQ). 2022. Texas Surface Water Quality Standards. 30 TAC §§307.1 – 307.10. Effective September 29, 2022.

Candice Calhoun

From: Sutherlin, Bailey <Bailey.Sutherlin@valero.com>
Sent: Thursday, October 30, 2025 10:53 AM
To: Candice Calhoun
Cc: aromero@geiconsultants.com; Marquard, Meagan
Subject: RE: Application to Renew Permit No. WQ0000465000 (Valero Refining-Texas, L.P.) - Notice of Deficiency
Attachments: Response to Notice of Deficiency - Signed.pdf; Industrial Discharge Renewal Spanish NORI.docx

Good Morning, Ms. Calhoun,

Attached you will find Valero's response in regards to the Notice of Deficiency (NOD) received on October 17, 2025. Included is the updated administrative report, updated NORI, and USCG map. I have also included a Microsoft word version of the NORI for your review.

Additionally, these documents have been uploaded to the FTP server and shared with WQDECopY@tceq.texas.gov within the server, and a hard copy of the pdf document for this response is in route to the TCEQ via the TCEQ US mailing address.

Please let me know if there is any additional information you need from me.

Respectfully,

Bailey Sutherlin
Environmental Engineer
Email: bailey.sutherlin@valero.com
Office: 361-299-3983
Cell: 580-222-1316



From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Friday, October 17, 2025 11:12 AM
To: Sutherlin, Bailey <Bailey.Sutherlin@valero.com>
Cc: aromero@geiconsultants.com
Subject: Application to Renew Permit No. WQ0000465000 (Valero Refining-Texas, L.P.) - Notice of Deficiency
Importance: High

Good morning, Ms. Sutherlin,

The attached Notice of Deficiency (NOD) letter dated October 17, 2025, requests additional information needed to declare the application administratively complete. Please send complete response no later than October 31, 2025.

If you have any questions, please let me know.

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: Sutherlin, Bailey <Bailey.Sutherlin@valero.com>
Sent: Thursday, October 30, 2025 4:16 PM
To: Candice Calhoun
Cc: aromero@geiconsultants.com; Marquard, Meagan
Subject: RE: Application to Renew Permit No. WQ0000465000 (Valero Refining-Texas, L.P.) - Notice of Deficiency
Attachments: Response to Notice of Deficiency - Revised.pdf; Industrial Discharge Renewal Spanish NORI_Revised.docx

Candice,

Please see the revised Response and NORI per your comments below. From my understanding I do not need to send these items in via mail or the FTP server, is that correct?

Respectfully,

Bailey Sutherlin
Environmental Engineer
Email: bailey.sutherlin@valero.com
Office: 361-299-3983
Cell: 580-222-1316



From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Thursday, October 30, 2025 11:22 AM
To: Sutherlin, Bailey <Bailey.Sutherlin@valero.com>
Cc: aromero@geiconsultants.com; Marquard, Meagan <Meagan.Marquard@valero.com>
Subject: RE: Application to Renew Permit No. WQ0000465000 (Valero Refining-Texas, L.P.) - Notice of Deficiency
Importance: High

Good morning, Bailey,

Thank you, your response to items 1, 2, and 3 is sufficient. However, I have some comments regarding the response to item 4. Please see my comments on the attached file. As for item 5, the Spanish NORI will need to be updated once some things in the English NORI have been corrected.

In addition, for future reference, you will not need to send the NOD response via the FTP server, you will only need to email the NOD response. If a mailed copy of the NOD response is requested, it will be noted in the NOD letter. However, if you are having issues sending a file due to it being too large, you may send it via FTP server. We try to limit NOD responses going through the FTP server as it is mainly for application submissions.



October 31, 2025

Candice Courville
Texas Commission on Environmental Quality
Water Quality Division
Applications Review and Processing Team, MC-148
P.O. Box 13087
Austin, TX 78711-3087

Re: Valero Refining – Texas, L.P. (CN600127468)
Response to Notice of Deficiency dated October 17, 2025
Valero Refining East Plant (RN100211663)
Application to Renew Permit No. WQ0000465000 (EPA I.D. TX0006904)

Dear Ms. Courville:

Valero Refining Company (Valero) is submitting this response to your notice of deficiency (NOD) letter dated October 17, 2025, for the renewal application for Texas Pollutant Discharge Elimination System (TPDES) permit no. WQ0000465000 that was submitted October 8, 2025. We are responding to the deficiencies and comments on an item-by-item basis below:

1.) *Outdated Administrative report:*

The most recent Administrative report dated September 13, 2024 has been completed and replacement pages are provided in Attachment A.

2.) *Item 10.f of the Administration Report:*

Please see revised Item 10.f in Attachment A.

3.) *USGS Topographic Map:*

Please see the revised USGS topographic map in Attachment B.

4.) *Spanish NORI:*

Below is the portion of the NORI contained in the NOD letter with corrections of any errors or omissions indicated in red:

APPLICATION. Valero Refining-Texas, L.P., P.O. Box 9370, Corpus Christi, Texas 78469, which owns an integrated petroleum refinery producing a full spectrum of petroleum products from crude oil, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0000465000 (EPA I.D. No. TX0006904) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 3,000,000 gallons per day via Outfall 001; the discharge of treated wastewater and stormwater at an intermittent and flow variable basis via Outfalls 002, 003, and 005; and the discharge of treated wastewater and stormwater at a volume not to exceed a daily average dry weather flow of 325,000 gallons per day via Outfall 004. The facility is located at 1147 Cantwell Lane, the City of Corpus Christi, in Nueces County, Texas 78407. The discharge route is from the plant site via Outfall 001 directly to Corpus Christi Inner Harbor; and via Outfalls 002, 003, 004, and 005 to a series of unnamed ditches; thence to an unnamed tidal ditch; thence to Corpus Christi Inner Harbor. TCEQ received this application on October 14, 2025. The permit application will be available for viewing and copying at La Retama Central Library, 805 Comanche Street, Corpus Christi, in Nueces County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available



electronically at the following webpage:

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

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

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.446111,27.806944&level=18>

Further information may also be obtained from Valero Refining-Texas, L.P. at the address stated above or by calling Ms. Bailey Sutherlin, Environmental Engineer, Valero Corpus Christi Refineries, at 361-299-3983.

An electronic copy, as a Microsoft Word document, of the Spanish NORI translation was transmitted to WQDecopy@TCEQ.Texas.gov and via email. A copy of the translation is included in Attachment C.

Please contact me at 361-299-3983 or bailey.sutherlin@valero.com if you have any questions or need any additional information.

Sincerely,

A handwritten signature in black ink that reads 'Bailey Sutherlin'.

Bailey Sutherlin
Environmental Engineer
Valero Corpus Christi Refineries

Enclosures

Attachment A – Replacement Administrative Report

Attachment B – Revised USGS Topographic Map

Attachment C – Industrial Discharge Renewal Spanish NORI

Attachment A
Revised Administrative Report

Notice of Deficiency Letter dated October 17, 2025, Item 1.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

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

APPLICANT NAME: Valero Refining - Texas, L.P.

PERMIT NUMBER (If new, leave blank): WQ00_00465000

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

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Worksheet 8.0	☐	☒
Administrative Report 1.1	☐	☒	Worksheet 9.0	☐	☒
SPIF	☒	☐	Worksheet 10.0	☐	☒
Core Data Form	☒	☐	Worksheet 11.0	☐	☒
Summary of Application (PLS)	☒	☐	Worksheet 11.1	☐	☒
Public Involvement Plan Form	☐	☒	Worksheet 11.2	☐	☒
Technical Report 1.0	☒	☐	Worksheet 11.3	☐	☒
Worksheet 1.0	☒	☐	Original USGS Map	☒	☐
Worksheet 2.0	☒	☐	Affected Landowners Map	☐	☒
Worksheet 3.0	☐	☒	Landowner Disk or Labels	☐	☒
Worksheet 3.1	☐	☒	Flow Diagram	☒	☐
Worksheet 3.2	☐	☒	Site Drawing	☒	☐
Worksheet 3.3	☐	☒	Original Photographs	☐	☒
Worksheet 4.0	☒	☐	Design Calculations	☐	☒
Worksheet 4.1	☐	☒	Solids Management Plan	☐	☒
Worksheet 5.0	☐	☒	Water Balance	☒	☐
Worksheet 6.0	☐	☒			
Worksheet 7.0	☒	☐			

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION

ADMINISTRATIVE REPORT 1.0

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

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use Oil and Gas Exploration and Production Administrative Report ([TCEQ Form-20893 and 20893-inst¹](#)).

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

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

Applicant Name: Valero Refining - Texas, L.P.

Permit No.: WQ0000465000

EPA ID No.: TX00006904

Expiration Date: April 8, 2026

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

- ☒ Industrial Wastewater (wastewater and stormwater)
☐ Industrial Stormwater (stormwater only)
☐ Reverse Osmosis Water Treatment (reverse osmosis water treatment wastewaters only)

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

- ☒ Active ☐ Inactive

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

- ☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

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

- ☐ New
☐ Renewal with changes ☒ Renewal without changes
☐ Major amendment with renewal ☐ Major amendment without renewal
☐ Minor amendment without renewal
☐ Minor modification without renewal

- f. If applying for an amendment or modification, describe the request: N/A

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____

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

g. Application Fee

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

h. Payment Information

Mailed

Check or money order No.: [Click to enter text.](#)

Check or money order amt.: [Click to enter text.](#)

Named printed on check or money order: [Click to enter text.](#)

Epay

Voucher number: 785814

Copy of voucher attachment: [Attachment A](#)

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN600127468

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

b. Legal name of the entity (applicant) applying for this permit: Valero Refining – Texas, L.P.

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

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

Prefix: Mr. Full Name (Last/First Name): Sharon, Kyle

Title: Vice President and General Manager Credential: [Click to enter text.](#)

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

☒ Yes ☐ No

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

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

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

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

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

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

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

- b. Customer Number (if applicant is an existing customer): CNClick to enter text.

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

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

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

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

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

☐ Yes ☐ No

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

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

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

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

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

- a. ☒ Administrative Contact ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Valero Corpus Christi Refineries

Mailing Address: 1147 Cantwell Lane

City/State/Zip: Corpus Christi, TX, 78407

Phone No: 361-299-3983

Email: bailey.sutherlin@valero.com

- b. ☐ Administrative Contact ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Romero, Ashley

Title: Water Quality Scientist Credential: M.S.

Organization Name: GEI Consultants, Inc.

Mailing Address: 4601 DTC Boulevard, Suite 325 City/State/Zip: Denver, CO, 80237

Phone No: 303-264-1092 Email: aromero@geiconsultants.com

Attachment: N/A

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

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

- a. Prefix: Mr. Full Name (Last/First Name): Sharon, Kyle
Title: Vice President Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX, 78469
Phone No: 361-289-6000 Email: kyle.sharon@valero.com
- b. Prefix: Mr. Full Name (Last/First Name): Hammersmith, Michael
Title: Director Environmental Health and Safety Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX, 78469
Phone No: 361-289-3328 Email: michael.hammersmith@valero.com
- Attachment: N/A

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

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

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

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey
Title: Environmental Engineer Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: 1147 Cantwell Lane City/State/Zip: Corpus Christi, TX, 78407
Phone No: 361-299-3983 Email: bailey.sutherlin@valero.com

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

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

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey
Title: Environmental Engineer Credential: Click to enter text.
Organization Name: Valero Corpus Christi Refineries
Mailing Address: 1147 Cantwell Lane City/State/Zip: Corpus Christi, TX, 78407

Phone No: 361-299-3983 Email: bailey.sutherlin@valero.com

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Valero Corpus Christi Refineries

Mailing Address: 1147 Cantwell Lane City/State/Zip: Corpus Christi, TX, 78407

Phone No: 361-299-3983 Email: bailey.sutherlin@valero.com

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

☒ E-mail: bailey.sutherlin@valero.com and aromero@geiconsultants.com

☐ Fax: Click to enter text.

☒ Regular Mail (USPS)

Mailing Address: 1147 Cantwell Lane

City/State/Zip Code: Corpus Christi, TX, 78407

c. Contact in the Notice

Prefix: Ms. Full Name (Last/First Name): Sutherlin, Bailey

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Valero Corpus Christi Refineries

Phone No: 361-299-3983 Email: bailey.sutherlin@valero.com

d. Public Viewing Location Information

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

Public building name: La Retama Central Library Location within the building: Click to enter text.

Physical Address of Building: 805 Comanche Street

City: Corpus Christi County: Nueces

e. Bilingual Notice Requirements

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

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

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

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

☒ Yes ☐ No

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

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

☒ Yes ☐ No

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

☐ Yes ☒ No

4. Would the school be required to provide a bilingual education program, but the school has waived out of this requirement under 19 TAC §89.1205(g)?

☐ Yes ☒ No ☐ N/A

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

- f. Summary of Application in Plain Language Template - Complete and attach the Summary of Application in Plain Language Template (TCEQ Form 20972), also known as the plain language summary or PLS. Attachment: C

- g. Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment. Attachment: N/A

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

- a. TCEQ issued Regulated Entity Number (RN), if available: RN100211663

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

- b. Name of project or site (name known by the community where located): Valero Refining Company East Plant

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

☒ Yes ☐ No ☐ N/A (new permit)

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

- d. Owner of treatment facility:

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

or Organization Name: Valero Refining - Texas, L.P.

Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX, 78469

Phone No: 361-289-6000 Email: Click to enter text.

- e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal
- f. Owner of land where treatment facility is or will be: Click to enter text.
Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.
or Organization Name: Valero Refining - Texas, L.P.
Mailing Address: P.O. Box 9370 City/State/Zip: Corpus Christi, TX, 78469
Phone No: 361-289-6000 Email: bailey.sutherlin@valero.com
Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: N/A
- g. Owner of effluent TLAP disposal site (if applicable): Click to enter text.
Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.
or Organization Name: N/A
Mailing Address: Click to enter text. City/State/Zip: Click to enter text.
Phone No: Click to enter text. Email: Click to enter text.
Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.
- h. Owner of sewage sludge disposal site (if applicable):
Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.
or Organization Name: N/A
Mailing Address: Click to enter text. City/State/Zip: Click to enter text.
Phone No: Click to enter text. Email: Click to enter text.
Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

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

- a. Is the facility located on or does the treated effluent cross Native American Land?
☐ Yes ☒ No
- b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.
- | | |
|---|--|
| ☒ One-mile radius | ☒ Three-miles downstream information |
| ☒ Applicant's property boundaries | ☒ Treatment facility boundaries |
| ☒ Labeled point(s) of discharge | ☒ Highlighted discharge route(s) |
| ☐ Effluent disposal site boundaries | ☒ All wastewater ponds |
| ☐ Sewage sludge disposal site | ☐ New and future construction |
- Attachment: D

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

☐ Yes ☐ No or New Permit ☒ N/A

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

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

☒ Yes ☐ No or New Permit

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

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

☒ Yes ☐ No or New Permit

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

f. City nearest the outfall(s): Corpus Christi

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

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

☐ Yes ☒ No

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

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

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

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

☐ Yes ☐ No or New Permit ☒ N/A

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

j. City nearest the disposal site: Click to enter text.

k. County in which the disposal site is located: Click to enter text.

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: Click to enter text.

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: [Click to enter text.](#)

- b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: [Click to enter text.](#)

Total amount due: [Click to enter text.](#)

- c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: [Click to enter text.](#)

Amount due: [Click to enter text.](#)

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ00000465000

Applicant Name: Valero Refining - Texas L.P.

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

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

Signatory name (typed or printed): Kyle Sharon

Signatory title: Vice President and General Manager

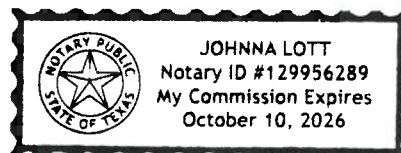
Signature: [Signature]
(Use blue ink)

Date: 10/30/2025

Subscribed and Sworn to before me by the said Kyle Sharon
on this 30 day of October, 20 25.
My commission expires on the 10 day of October, 20 26.

[Signature]
Notary Public

Nueces
County, Texas



[SEAL]

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: E

Attachment B

Revised USGS Topographic Map

Notice of Deficiency Letter dated October 17, 2025, Item 3.
Administration Report 1.0 Pg. 8, 11.b.

Attachment C

Industrial Discharge Renewal Spanish NORI

Notice of Deficiency Letter dated October 17, 2025, Item 5.

Comisión de Calidad Ambiental del Estado de Texas



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

PERMISO NO. WQ000

SOLICITUD. *Valero Refining-Texas, L.P., P.O. Box 9370, Corpus Christi, Texas 78469, que posee una refinería de petróleo integrada que produce un espectro completo de productos derivados del petróleo crudo*, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0000465000 (EPA I.D. No. TX0006904) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de *3,000,000* galones por día via Outfall 001; la descarga de aguas residuales tratadas y pluviales de forma intermitente y de flujo variable a través de los emisarios 002, 003 y 005; y la descarga de aguas residuales tratadas y pluviales en un volumen que no exceda un flujo promedio diario en clima seco de 325,000 galones por día a través del desagüe 004. La planta está ubicada *1147 Cantwell Lane, la Ciudad de Corpus Christi*, en el Condado de *Nueces*, Texas *78407*. La ruta de descarga es del sitio de la planta a *a través del desagüe 001 directamente al puerto interior de Corpus Christi; y a través del desagüe 002, 003, 004 y 005 a una serie de zanjas sin nombre; de allí a una zanja de marea sin nombre; de allí al puerto interior de Corpus Christi*. La TCEQ recibió esta solicitud el *Octubre 14, 2025*. La solicitud para el permiso estará disponible para leerla y copiarla en *Biblioteca Central La Retama, 805 Comanche Street, Corpus Christi, en el condado de Nueces, Texas* antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

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

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

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.446111,27.806944&level=18>

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

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

que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.

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

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

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

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

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

presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

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

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

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

También se puede obtener información adicional del *Valero Refining-Texas, L.P.* a la dirección indicada arriba o llamando a *Sra. Bailey Sutherlin, Ingeniera Ambiental, Refinerías Valero Corpus Christi* al 361-299-3983.

Fecha de emisión: *[Date notice issued]*

LEGEND

- Valero Facility and Property Boundary
- One Mile Radius
- Outfall Locations
- Upstream/Downstream Markers
- Discharge



Basemap Source: US Topo 7.5 Minute map for Corpus Christi, TX. 2022



VALERO REFINING - TEXAS, L.P.
EAST PLANT REFINERY
CORPUS CHRISTI, TEXAS

ATTACHMENT D
USGS MAP



4601 DTC Blvd Suite 325
 Denver, CO, 80237

Project 2500415

June 2025