August 5, 2021

Melinda Luxemburg, P.E. (MC-148)
Water Quality Division, Wastewater Permitting, Industrial Permits
Texas Commission on Environmental Quality
P.O. Box 1308
Austin, Texas 78711-3087

Certified Mail
7016 0600 0000 3199 4860

Re: Lyondell Chemical Company (CN600344402)
Lyondell Chemical Channelview (RN100633650)
TPDES Permit No. WQ0002927000 (EPA ID No. TX0069493)
Comments on 7-23-21 draft permit

Dear Ms. Luxemburg:

Lyondell Chemical Company appreciates the opportunity to submit these comments on the draft TPDES permit and fact sheet for the Channelview facility, which the TCEQ sent on 7-23-21. The comments include the section and page numbers of the draft permit and fact sheet for your convenience.

Additional Sample Analyses – Outfalls 002, 003, 004, 005, and 006

When Lyondell submitted its TPDES renewal application in December 2020, it noted that it would be providing in a subsequent submittal, analyses for additional sample data for Outfalls 002, 003, 004, 005, and 006. In the December submission, data had been included for 1-2 samples for Outfalls 002-004, but none for Outfalls 005-006. Because all of these outfalls are primarily storm water discharges, dry weather had prevented collection of the usual 4 outfall application samples prior to the December submission. All sample analyses were completed in July 2021 and Lyondell is attaching Worksheet 2 (Outfall Analyses) from the TPDES application Technical Report for each of these outfalls. The new data included in these worksheets are summarized below.

- Outfall 002 – An additional 2 samples for Tables 1 and 2 in Worksheet 2. Additional analyses for total and dissolved aluminum in Table 2.
- Outfall 003 - An additional 3 samples for Tables 1 and 2 and 1 sample for volatiles in Tables 3 and 8 and color/surfactants in Table 6 in Worksheet 2. Additional analyses for total and dissolved aluminum in Table 2.
- Outfall 004 – An additional 3 samples for Tables 1 and 2 and 1 sample for volatiles in Tables 3 and 8 and color/surfactants in Table 6 in Worksheet 2. Additional analyses for total and dissolved aluminum in Table 2.
- Outfall 005 – All data for applicable tables in Worksheet 2. Additional analyses for total and dissolved aluminum and total zinc in Table 2.
- Outfall 006 – All data for applicable tables in Worksheet 2. Additional analyses for total and dissolved aluminum in Table 2.

It is noted that all sample data for the main process wastewater Outfall 001 were originally submitted with the December 2020 application and there are no new data for the outfall included here.

Lyondell Chemical Company
2502 Sheldon Road
Channelview, TX 77530
P.O. Box 30 (77530-0030)
USA

Tel +1 281 862 4000
Fax +1 281 862 4006
lyb.com

Outfalls 005 and 006 Sample Testing
Permit, Other Requirement No. 20, pg. 32

Other Requirement No. 20 was added to the draft permit to require submission of sample test data for Outfalls 005 and 006 because data had not been included with the December 2020 TPDES application submission. Because Lyondell is providing sample data for Outfalls 005 and 006 now with these comments, this requirement is no longer needed and Lyondell requests that Other Requirement No. 20 be removed.

Outfall 001 Wastewater Descriptions
Permit, Outfall 001 (Interim Phase), pg. 2
Permit, Outfall 001 (Final Phase), pg. 2c

In the TPDES application, Lyondell had requested several minor changes to the wastewater descriptions for Outfall 001 (interim and final), and a few appeared to have been overlooked in the draft permit. The requested changes were listed in the TPDES application in Attachment T-1 Facility Description, Table 2 Wastewater Sources by Outfall and Attachment T-2 Amendment Requests (pg. 5). Lyondell requests the following edits to the Outfall 001 wastewaters in the draft permit (pp. 2, 2c).

> "...the permittee is authorized to discharge...heat exchanger blasting slab ~~waste~~ **wastewater**, ...and stormwater from the adjacent ~~Cogen Lyondell~~ **cogeneration** facility)..."
> *[Note – The cogeneration facility is owned and operated by Optim Energy Altura COGEN (see application Attachment T-1, pg. 2), but Lyondell requests that the wastewater description be general so that the permit would not need to be modified in the future merely for a name change.]*

Wastewater from Firefighting
Permit, Other Requirement No. 13, pg. 20

The TCEQ added to the list of utility wastewaters in Other Requirement No. 13 of the draft permit, allowable non-stormwaters found in the Multi-Sector General Permit (MSGP) for Industrial Stormwater (TXR050000). These allowable non-stormwaters include discharges from emergency firefighting. However, elsewhere in Other Requirement No. 13, firewater is excluded as a utility wastewater if it results from a fire. Lyondell requests removal of this exclusion given that emergency firefighting wastewaters are allowed under the MSGP.

Water Quality-based Effluent Limits (Hexachlorobutadiene, Phenanthrene) – Outfall 001
Fact Sheet, Appendix D, pg. 64
Permit, Outfall 001 (Interim Phase), pg. 2b

Appendix D of the fact sheet shows which limits (technology, water quality-based, existing permit) are the most restrictive and are incorporated into the draft permit. There are a couple of errors that need to be corrected as listed below.

- Outfall 001 (Interim Phase) hexachlorobutadiene – the water quality-based daily maximum limit (0.424 pounds per day, lb/d) is less than the existing permit limit (0.474 lb/d). This change should be made in Appendix D of the fact sheet (pg. 64) and in the draft permit (pg. 2b); similarly, the single grab limit in the draft permit should be 0.0318 milligrams per liter (mg/L) rather than 0.0355 mg/L.
- Outfall 001 (Final Phase) phenanthrene – the existing daily maximum permit limit is 0.810 mg/L, not 0.864 mg/L, and Appendix D should be corrected.

Single Grab Limits Below Minimum Analytical Level – Outfall 001
Draft Permit, Outfall 001 (Interim Phase), pp. 2-2a
Draft Permit, Outfall 001 (Final Phase), pp. 2c-2d

The draft permit includes single grab limits for Outfall 001 (interim and final phases) for several compounds that are below their minimum analytical levels (MALs), which are listed in Other Requirement No. 2 of the draft permit (pp. 14-15), specifically, benzo(a)anthracene, benzo(a)pyrene, and hexachlorobenzene. Lyondell understands that the TCEQ normally uses the MAL as the single grab limit when it is higher than the calculated grab limit; therefore, the grab limit for all three compounds should be changed to 0.005 mg/L.

Other Requirement No. 19
Fact Sheet, pg. 10

In the "Summary of Changes from Existing Permit" in the fact sheet, it is stated that Other Requirement No. 19 (Outfall 008, 009, and 010 effluent sampling) was updated (item B.5, pg. 10), however, Lyondell could not find any changes in the draft permit for this requirement.

New Treatment Chemicals

Although not affecting the draft permit or fact sheet, Lyondell is updating information on cooling tower treatment chemicals for the TPDES application and permit record. While not used currently, it is anticipated that the following products may be used in the future for preparation for treatment and passivation of the cooling towers for the new PO/TBA units: Flogard MS6201, Ferroquest FQ7101, MD4103, and BT4301. Safety data sheets (SDSs) for these products are enclosed.

If you have any questions, please feel free to contact me at 281-452-8722 or nancy.ross@lyondellbasell.com.

Sincerely,

Nancy Ross

Nancy Ross
Interim Environmental Manager – Waste & Water

Enclosures
Worksheet 2 – Outfalls 002, 003, 004, 005, 006
SDSs – Flogard MS6201, Ferroquest FQ7101, MD4103, BT4301

File No: CVOS 300-160-029

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

i. LABORATORY ACCREDITATION (Instructions, Page 49)

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

a. The laboratory is an in-house laboratory and is:

- periodically inspected by the TCEQ; or

1. located in another state and is accredited or inspected by that state; or

i. performing work for another company with a unit located in the same site; or

ii. performing pro bono work for a governmental agency or charitable organization.

1. The laboratory is accredited under federal law.
2. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
3. The laboratory supplies data for which the TCEQ does not offer accreditation.

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

I, (see certification on pg. 1 of Worksheet 2 for Outfall 001), certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

_____
(Signature)

1. GENERAL TESTING REQUIREMENTS (Instructions, Pages 49-51)

1. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 10/04/2020 – 7/8/21

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

3. 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:** T-3 Laboratories for Outfall Analyses

4. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 51-62)

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 50)

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

Table 1 for Outfall No.: 002

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	3	3	<2
CBOD (5-day)	<2	2	6	<2
Chemical oxygen demand	27	25	21	34
Total organic carbon	35	9	4	11
Dissolved oxygen	10.28	5.98	9.01	13.67
Ammonia nitrogen	<0.25	<0.25	<0.25	<0.25
Total suspended solids	10	8	181	15
Nitrate nitrogen	<0.5	<0.5	<0.5	0.82
Total organic nitrogen	7.59	1.15	1.41	0.782
Total phosphorus	0.28	0.17	0.31	0.25
Oil and grease	5	5	5	5
Total residual chlorine	0.03	0.02	0.03	0.05
Total dissolved solids	529	341	196	594
Sulfate	104	79.7	54	160
Chloride	94.9	63.3	16.5	<5
Fluoride	<0.5	<0.5	<0.5	<0.5
Total alkalinity (mg/L as $CaCO_3$)	131	124	126	124
Temperature (°F)	78.6	66.9	63.2	70.4
pH (standard units)	8.82	7.81	7.87	8.67

Table 2 for Outfall No.: 002

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

Pollutant	Sample 1 (µg/L)		Sample 2 (µg/L)		Sample 3 (µg/L)		Sample 4 (µg/L)		MAL (µg/L)
	total	dissolved	total	dissolved	total	dissolved	total	dissolved	
Aluminum, total	169	-	236	-	4510	-	460	-	2.5
Aluminum (additional samples 5-8)	3990	341	334	85.1	5890	275	3560	292	2.5
Antimony, total	2.1		2.3		1.6		3.4		5
Arsenic, total	6.3		4.8		4.9		5.2		0.5
Barium, total	115		111		65.8		131		3
Beryllium, total	<0.4		<0.4		2.5		<0.4		0.5
Cadmium, total	<0.4		<0.4		<0.4		<0.4		1
Chromium, total	0.8		0.9		8		1.4		3

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Chromium, hexavalent	<3.4	<3.4	<10	<3.4	3
Chromium, trivalent	0.8	0.9	8	1.4	N/A
Copper, total	8.3	8.5	12.3	12.6	2
Cyanide, available	<1.49 [CN-avail] <0.785 [CN-free]	<1.49 [CN-avail] <0.785 [CN-free]	<1.49 [CN-avail] <0.785 [CN-free]	<1.49 [CN-avail]	2/10
Lead, total	0.6	0.5	5.5	1.6	0.5
Mercury, total	0.0039	0.00312	0.00998	0.00476	0.005/0.0005
Nickel, total	4.6	2.2	7.9	3.9	2
Selenium, total	<3.2	<3.2	<3.2	<3.2	5
Silver, total	<0.4	<0.4	<0.4	<0.4	0.5
Thallium, total	<0.4	<0.4	<0.4	<0.4	0.5
Zinc, total	20.5	30.4	252	122	5.0

TABLE 3 (Instructions, Page 50)

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.: 002

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3	-	-	-	50
Anthracene	<0.39	-	-	-	10
Benzene	<1	-	-	-	10
Benzidine	<0.74	-	-	-	50
Benzo(a)anthracene	<0.43	-	-	-	5
Benzo(a)pyrene	<0.95	-	-	-	5
Bis(2-chloroethyl)ether	<0.81	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.46	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<1	-	-	-	10
Chloroform	<1	-	-	-	10
Chrysene	<0.64	-	-	-	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
m-Cresol [3-Methylphenol]	<4.48†	-	-	-	10
o-Cresol [2-Methylphenol]	<2.24	-	-	-	10
p-Cresol [4-Methylphenol]	<1.48†	-	-	-	10
1,2-Dibromoethane	<1	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.59	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.46	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.28	-	-	-	10
3,3'-Dichlorobenzidine	<0.99	-	-	-	5
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1	-	-	-	10
Dichloromethane [Methylene chloride]	<1	-	-	-	20
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1	-	-	-	10
2,4-Dimethylphenol	<0.59	-	-	-	10
Di-n-Butyl phthalate	<1.37	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Fluoride	<500	<500	<500	<500	500
Hexachlorobenzene	<0.77	-	-	-	5
Hexachlorobutadiene	<0.46	-	-	-	10
Hexachlorocyclopentadiene	<1.55	-	-	-	10
Hexachloroethane	<0.53	-	-	-	20
Methyl ethyl ketone	<1	-	-	-	50
Nitrobenzene	<1.02	-	-	-	10
N-Nitrosodiethylamine	<5.6	-	-	-	20
N-Nitroso-di-n-butylamine	<5.6	-	-	-	20
Nonylphenol	<1.28	-	-	-	333
Pentachlorobenzene	<3.36	-	-	-	20
Pentachlorophenol	<0.56	-	-	-	5
Phenanthrene	<0.49	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.02	-	-	-	0.2
Pyridine	<0.39	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<5.6	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10
Tetrachloroethene [Tetrachloroethylene]	<1	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Toluene	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10
1,1,2-Trichloroethane	<1	-	-	-	10
Trichloroethene [Trichloroethylene]	<1	-	-	-	10
2,4,5-Trichlorophenol	<0.95	-	-	-	50
TTHM (Total trihalomethanes)	<2	-	-	-	10
Vinyl chloride	<1	-	-	-	10
†Semivolatiles were analyzed by EPA Method 625.1. TCEQ does not offer accreditation for m-cresol by 625.1. Laboratory reported m+p-cresol as co-eluted. Laboratory's accreditation certificate does not include p-cresol by 625.1.					

(*) 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 50-51)

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)

iii. 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

1. 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)

ii. 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

1. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: N/A

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

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 51)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
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 52)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 002

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

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	10	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	<0.5	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO_3)	☒	☐	<1	<1	<1	2	—
Surfactants	☒	☐	0.0357	-	-	-	—
Boron, total	☒	☐	0.183	-	-	-	20
Cobalt, total	☒	☐	0.0007	-	-	-	0.3
Iron, total	☒	☐	0.296	-	-	-	7
Magnesium, total	☒	☐	6.54	-	-	-	20
Manganese, total	☒	☐	0.0235	-	-	-	0.5
Molybdenum, total	☒	☐	0.0152	-	-	-	1
Tin, total	☐	☒	<0.004	-	-	-	5
Titanium, total	☐	☒	<0.0044	-	-	-	30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 52)

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
☐ 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

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ 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 52)

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.: 002 : Volatile Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<6	-	-	-	50
Acrylonitrile	<3	-	-	-	50
Benzene	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane	<1	-	-	-	10
Chloroethane	<1	-	-	-	50
2-Chloroethylvinyl ether	<6	-	-	-	10
Chloroform	<1	-	-	-	10
Dichlorobromomethane [Bromodichloromethane]	<1	-	-	-	10
1,1-Dichloroethane	<1	-	-	-	10
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1	-	-	-	10
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Methyl bromide [Bromomethane]	<2	-	-	-	50
Methyl chloride [Chloromethane]	<1	-	-	-	50
Methylene chloride [Dichloromethane]	<1	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1	-	-	-	10
Toluene	<1	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 002 : Acid Compounds

Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.56	-	-	-	10
2,4-Dichlorophenol	<0.77	-	-	-	10
2,4-Dimethylphenol	<0.59	-	-	-	10
4,6-Dinitro-o-cresol	<0.74	-	-	-	50
2,4-Dinitrophenol	<1.58	-	-	-	50
2-Nitrophenol	<0.99	-	-	-	20
4-Nitrophenol	<1.27	-	-	-	50
p-Chloro-m-cresol	<0.59	-	-	-	10
Pentachlorophenol	<0.56	-	-	-	5
Phenol	<0.49	-	-	-	10
2,4,6-Trichlorophenol	<0.88	-	-	-	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 002 : Base/Neutral Compounds

Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<0.31	-	-	-	10
Acenaphthylene	<0.53	-	-	-	10
Anthracene	<0.39	-	-	-	10
Benzidine	<0.74	-	-	-	50
Benzo(a)anthracene	<0.43	-	-	-	5
Benzo(a)pyrene	<0.95	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.64	-	-	-	10
Benzo(ghi)perylene	<0.71	-	-	-	20
Benzo(k)fluoranthene	<0.64	-	-	-	5
Bis(2-chloroethoxy)methane	<0.39	-	-	-	10
Bis(2-chloroethyl)ether	<0.81	-	-	-	10
Bis(2-chloroisopropyl)ether	<0.95	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.46	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
4-Bromophenyl phenyl ether	<0.46	-	-	-	10
Butylbenzyl phthalate	<0.77	-	-	-	10
2-Chloronaphthalene	<0.31	-	-	-	10
4-Chlorophenyl phenyl ether	<0.74	-	-	-	10
Chrysene	<0.64	-	-	-	5
Dibenzo(a,h)anthracene	<0.77	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.46	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.59	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.28	-	-	-	10
3,3'-Dichlorobenzidine	<0.99	-	-	-	5
Diethyl phthalate	<0.71	-	-	-	10
Dimethyl phthalate	<0.81	-	-	-	10
Di-n-butyl phthalate	<1.37	-	-	-	10
2,4-Dinitrotoluene	<1.58	-	-	-	10
2,6-Dinitrotoluene	<1.37	-	-	-	10
Di-n-octyl phthalate	<3.09	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.25	-	-	-	20
Fluoranthene	<0.49	-	-	-	10
Fluorene	<0.53	-	-	-	10
Hexachlorobenzene	<0.77	-	-	-	5
Hexachlorobutadiene	<0.46	-	-	-	10
Hexachlorocyclopentadiene	<1.55	-	-	-	10
Hexachloroethane	<0.53	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.25	-	-	-	5
Isophorone	<0.31	-	-	-	10
Naphthalene	<0.35	-	-	-	10
Nitrobenzene	<1.02	-	-	-	10
N-Nitrosodimethylamine	<0.88	-	-	-	50
N-Nitrosodi-n-propylamine	<0.81	-	-	-	20
N-Nitrosodiphenylamine	<0.53	-	-	-	20
Phenanthrene	<0.49	-	-	-	10
Pyrene	<0.64	-	-	-	10
1,2,4-Trichlorobenzene	<0.59	-	-	-	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 002 : Pesticides
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin	<0.003	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.008	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.01	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.005	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.004	-	-	-	0.05
Chlordane	<0.1	-	-	-	0.2
4,4'-DDT	<0.004	-	-	-	0.02
4,4'-DDE	<0.002	-	-	-	0.1
4,4'-DDD	<0.006	-	-	-	0.1
Dieldrin	<0.003	-	-	-	0.02
Endosulfan I (alpha)	<0.003	-	-	-	0.01
Endosulfan II (beta)	<0.004	-	-	-	0.02
Endosulfan sulfate	<0.003	-	-	-	0.1
Endrin	<0.004	-	-	-	0.02
Endrin aldehyde	<0.008	-	-	-	0.1
Heptachlor	<0.005	-	-	-	0.01
Heptachlor epoxide	<0.002	-	-	-	0.01
PCB 1242	<0.01	-	-	-	0.2
PCB 1254	<0.01	-	-	-	0.2
PCB 1221	<0.01	-	-	-	0.2
PCB 1232	<0.01	-	-	-	0.2
PCB 1248	<0.01	-	-	-	0.2
PCB 1260	<0.01	-	-	-	0.2
PCB 1016	<0.02	-	-	-	0.2
Toxaphene	<0.1	-	-	-	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 53-54)

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

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
☐ hexachlorophene (HCP) CASRN 70-30-4
☒ None of the above

Description: N/A

2. 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): ☐ Composites ☐ Grabs

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

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Page 54)

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

☒ Yes ☐ No

3. 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.: 002
Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium	7440-62-2	4.7	-	-	-	EPA 200.8

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

i. LABORATORY ACCREDITATION (Instructions, Page 49)

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

a. The laboratory is an in-house laboratory and is:
   - periodically inspected by the TCEQ; or

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

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

I, (see certification on pg. 1 of Worksheet 2 for Outfall 001), certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

_____
(Signature)

1. GENERAL TESTING REQUIREMENTS (Instructions, Pages 49-51)

1. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 10/09/2020 – 07/09/21

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

3. 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:** T-3 Laboratories for Outfall Analyses

4. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 51-62)

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 50)

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

Table 1 for Outfall No.: 003

Samples are (check one): ☐ **Composite** ☒ **Grab**

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	3	3	2	3
CBOD (5-day)	<2	4	2	2
Chemical oxygen demand	27	14	18	14
Total organic carbon	5	6	4	3
Dissolved oxygen	7.35	9.37	8.91	11.8
Ammonia nitrogen	<0.25	<0.25	<0.25	<0.25
Total suspended solids	36	91	243	95
Nitrate nitrogen	0.56	<0.5	<0.5	0.53
Total organic nitrogen	2.36	1.2	0.25	0.916
Total phosphorus	0.14	0.13	0.24	0.14
Oil and grease	5	5	5	5
Total residual chlorine	0.02	-	0.02	0.05
Total dissolved solids	290	141	99	184
Sulfate	70.3	22.5	22.8	79.7
Chloride	31.9	6.55	<5	16.7
Fluoride	<0.5	<0.5	<0.5	<0.5
Total alkalinity (mg/L as $CaCO_3$)	96	78	76	91
Temperature (°F)	75.3	62.9	67	54.3
pH (standard units)	8.7	8.8	8.36	8.44

Table 2 for Outfall No.: 003

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

Pollutant	Sample 1 (µg/L)		Sample 2 (µg/L)		Sample 3 (µg/L)		Sample 4 (µg/L)		MAL (µg/L)
	total	dissolved	total	dissolved	total	dissolved	total	dissolved	
Aluminum, total	1660	-	3240	-	6580	-	3700	-	2.5
Aluminum (additional samples 5-7)	727	102	3580	2020	1840	129	-	-	2.5
Antimony, total	1.3		0.6		1		1.1		5
Arsenic, total	5.1		3.7		4.7		5.2		0.5
Barium, total	75		53.4		63.9		66.6		3
Beryllium, total	<0.4		<0.4		0.4		<0.4		0.5
Cadmium, total	<0.4		<0.4		<0.4		<0.4		1
Chromium, total	3.7		15.7		8.1		5.3		3

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Chromium, hexavalent	<3.4	<3.4	<3.4	<3.4	3
Chromium, trivalent	3.7	15.7	8.1	5.3	N/A
Copper, total	5.6	8.5	6.6	5.2	2
Cyanide, available	<1.49 [CN-avail] <0.785 [CN-free]	<1.49 [CN-avail] <3.93 [CN-free]	<1.49 [CN-avail]	<2 [CN-avail] 2.19 [CN-free]	2/10
Lead, total	1.5	2.8	5.8	2.9	0.5
Mercury, total	0.005447	0.00746	0.0111	0.00429	0.005/0.0005
Nickel, total	2.7	4.4	7.3	4.6	2
Selenium, total	<3.2	<3.2	<3.2	<3.2	5
Silver, total	<0.4	<0.4	<0.4	<0.4	0.5
Thallium, total	<0.4	<0.4	<0.4	<0.4	0.5
Zinc, total	63.3	117	236	156	5.0

TABLE 3 (Instructions, Page 50)

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

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

Table 3 for Outfall No.: 003

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	-	<3	-	-	50
Anthracene	<0.57	-	-	-	10
Benzene	-	<1	-	-	10
Benzidine	<1.08	-	-	-	50
Benzo(a)anthracene	<0.62	-	-	-	5
Benzo(a)pyrene	<1.39	-	-	-	5
Bis(2-chloroethyl)ether	<1.18	-	-	-	10
Bis(2-ethylhexyl)phthalate	<3.61	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	-	<1	-	-	10
Bromoform	-	<1	-	-	10
Carbon tetrachloride	-	<1	-	-	2
Chlorobenzene	-	<1	-	-	10
Chlorodibromomethane [Dibromochloromethane]	-	<1	-	-	10
Chloroform	-	<1	-	-	10
Chrysene	<0.93	-	-	-	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
m-Cresol [3-Methylphenol]	<6.56†	-	-	-	10
o-Cresol [2-Methylphenol]	<3.28	-	-	-	10
p-Cresol [4-Methylphenol]	<6.56†	-	-	-	10
1,2-Dibromoethane	-	<1	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.87	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.67	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.41	-	-	-	10
3,3'-Dichlorobenzidine	<1.44	-	-	-	5
1,2-Dichloroethane	-	<1	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	-	<1	-	-	10
Dichloromethane [Methylene chloride]	-	<1	-	-	20
1,2-Dichloropropane	-	<1	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	-	<1	-	-	10
2,4-Dimethylphenol	<0.87	-	-	-	10
Di-n-Butyl phthalate	<2	-	-	-	10
Ethylbenzene	-	<1	-	-	10
Fluoride	<500	<500	<500	<500	500
Hexachlorobenzene	<1.13	-	-	-	5
Hexachlorobutadiene	<0.67	-	-	-	10
Hexachlorocyclopentadiene	<2.26	-	-	-	10
Hexachloroethane	<0.77	-	-	-	20
Methyl ethyl ketone	-	<1	-	-	50
Nitrobenzene	<1.49	-	-	-	10
N-Nitrosodiethylamine	<8.2	-	-	-	20
N-Nitroso-di-n-butylamine	<8.2	-	-	-	20
Nonylphenol	<1.68	-	-	-	333
Pentachlorobenzene	<4.92	-	-	-	20
Pentachlorophenol	<0.82	-	-	-	5
Phenanthrene	<0.72	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.02	-	-	-	0.2
Pyridine	<0.57	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<8.2	-	-	-	20
1,1,2,2-Tetrachloroethane	-	<1	-	-	10
Tetrachloroethene [Tetrachloroethylene]	-	<1	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Toluene	-	<1	-	-	10
1,1,1-Trichloroethane	-	<1	-	-	10
1,1,2-Trichloroethane	-	<1	-	-	10
Trichloroethene [Trichloroethylene]	-	<1	-	-	10
2,4,5-Trichlorophenol	<1.39	-	-	-	50
TTHM (Total trihalomethanes)	-	<2	-	-	10
Vinyl chloride	-	<1	-	-	10
†Semivolatiles were analyzed by EPA Method 625.1. TCEQ does not offer accreditation for m-cresol by 625.1. Laboratory reported m+p-cresol as co-eluted. Laboratory's accreditation certificate does not include p-cresol by 625.1.					

(*) 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 50-51)

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)

iii. 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

1. 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)

ii. 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

1. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: N/A

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

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 51)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
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 52)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 003
Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	-	10	-	-	—
Nitrate-Nitrite (as N)	☒	☐	0.56	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO3)	☐	☒	<1	-	<1	<1	—
Surfactants	☒	☐	-	<0.1	-	-	—
Boron, total	☒	☐	0.091	-	-	-	20
Cobalt, total	☒	☐	0.0005	-	-	-	0.3
Iron, total	☒	☐	1.24	-	-	-	7
Magnesium, total	☒	☐	3.42	-	-	-	20
Manganese, total	☒	☐	0.0314	-	-	-	0.5
Molybdenum, total	☒	☐	0.0639	-	-	-	1
Tin, total	☐	☒	<0.004	-	-	-	5
Titanium, total	☐	☒	<0.0044	-	-	-	30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 52)

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
☐ 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

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ 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 52)

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

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

Table 8 for Outfall No.: 003 : Volatile Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	-	<6	-	-	50
Acrylonitrile	-	<3	-	-	50
Benzene	-	<1	-	-	10
Bromoform	-	<1	-	-	10
Carbon tetrachloride	-	<1	-	-	2
Chlorobenzene	-	<1	-	-	10
Chlorodibromomethane	-	<1	-	-	10
Chloroethane	-	<1	-	-	50
2-Chloroethylvinyl ether	-	<6	-	-	10
Chloroform	-	<1	-	-	10
Dichlorobromomethane [Bromodichloromethane]	-	<1	-	-	10
1,1-Dichloroethane	-	<1	-	-	10
1,2-Dichloroethane	-	<1	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	-	<1	-	-	10
1,2-Dichloropropane	-	<1	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	-	<1	-	-	10
Ethylbenzene	-	<1	-	-	10
Methyl bromide [Bromomethane]	-	<2	-	-	50
Methyl chloride [Chloromethane]	-	<1	-	-	50
Methylene chloride [Dichloromethane]	-	<1	-	-	20
1,1,2,2-Tetrachloroethane	-	<1	-	-	10
Tetrachloroethylene [Tetrachloroethene]	-	<1	-	-	10
Toluene	-	<1	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	-	<1	-	-	10
1,1,1-Trichloroethane	-	<1	-	-	10

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 003 : Acid Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.82	-	-	-	10
2,4-Dichlorophenol	<1.13	-	-	-	10
2,4-Dimethylphenol	<0.87	-	-	-	10
4,6-Dinitro-o-cresol	<1.08	-	-	-	50
2,4-Dinitrophenol	<2.31	-	-	-	50
2-Nitrophenol	<1.44	-	-	-	20
4-Nitrophenol	<1.85	-	-	-	50
p-Chloro-m-cresol	<0.87	-	-	-	10
Pentachlorophenol	<0.82	-	-	-	5
Phenol	<0.72	-	-	-	10
2,4,6-Trichlorophenol	<1.3	-	-	-	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 003 : Base/Neutral Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<0.46	-	-	-	10
Acenaphthylene	<0.77	-	-	-	10
Anthracene	<0.57	-	-	-	10
Benzidine	<1.08	-	-	-	50
Benzo(a)anthracene	<0.62	-	-	-	5
Benzo(a)pyrene	<1.39	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.93	-	-	-	10
Benzo(ghi)perylene	<1.03	-	-	-	20
Benzo(k)fluoranthene	<0.93	-	-	-	5
Bis(2-chloroethoxy)methane	<0.57	-	-	-	10
Bis(2-chloroethyl)ether	<1.18	-	-	-	10
Bis(2-chloroisopropyl)ether	<1.39	-	-	-	10
Bis(2-ethylhexyl)phthalate	<3.61	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
4-Bromophenyl phenyl ether	<0.67	-	-	-	10
Butylbenzyl phthalate	<1.13	-	-	-	10
2-Chloronaphthalene	<0.46	-	-	-	10
4-Chlorophenyl phenyl ether	<1.08	-	-	-	10
Chrysene	<0.93	-	-	-	5
Dibenzo(a,h)anthracene	<1.13	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.67	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.87	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.41	-	-	-	10
3,3'-Dichlorobenzidine	<1.44	-	-	-	5
Diethyl phthalate	<1.03	-	-	-	10
Dimethyl phthalate	<1.18	-	-	-	10
Di-n-butyl phthalate	<2	-	-	-	10
2,4-Dinitrotoluene	<1.59	-	-	-	10
2,6-Dinitrotoluene	<2	-	-	-	10
Di-n-octyl phthalate	<4.53	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.36	-	-	-	20
Fluoranthene	<0.72	-	-	-	10
Fluorene	<0.77	-	-	-	10
Hexachlorobenzene	<1.13	-	-	-	5
Hexachlorobutadiene	<0.67	-	-	-	10
Hexachlorocyclopentadiene	<2.26	-	-	-	10
Hexachloroethane	<0.77	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.36	-	-	-	5
Isophorone	<0.46	-	-	-	10
Naphthalene	<0.51	-	-	-	10
Nitrobenzene	<1.49	-	-	-	10
N-Nitrosodimethylamine	<1.3	-	-	-	50
N-Nitrosodi-n-propylamine	<1.18	-	-	-	20
N-Nitrosodiphenylamine	<0.77	-	-	-	20
Phenanthrene	<0.72	-	-	-	10
Pyrene	<0.93	-	-	-	10
1,2,4-Trichlorobenzene	<0.87	-	-	-	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 003 : Pesticides

Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin	<0.003	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.008	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.01	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.005	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.004	-	-	-	0.05
Chlordane	<0.1	-	-	-	0.2
4,4'-DDT	<0.004	-	-	-	0.02
4,4'-DDE	<0.002	-	-	-	0.1
4,4'-DDD	<0.006	-	-	-	0.1
Dieldrin	<0.003	-	-	-	0.02
Endosulfan I (alpha)	<0.003	-	-	-	0.01
Endosulfan II (beta)	<0.004	-	-	-	0.02
Endosulfan sulfate	<0.003	-	-	-	0.1
Endrin	<0.004	-	-	-	0.02
Endrin aldehyde	<0.008	-	-	-	0.1
Heptachlor	<0.005	-	-	-	0.01
Heptachlor epoxide	<0.002	-	-	-	0.01
PCB 1242	<0.02	-	-	-	0.2
PCB 1254	<0.02	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.02	-	-	-	0.2
PCB 1248	<0.02	-	-	-	0.2
PCB 1260	<0.01	-	-	-	0.2
PCB 1016	<0.02	-	-	-	0.2
Toxaphene	<0.1	-	-	-	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 53-54)

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

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5

☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
☐ hexachlorophene (HCP) CASRN 70-30-4
☒ None of the above

Description: N/A

2. 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): ☐ Composites ☐ Grabs

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

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Page 54)

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

☒ Yes ☐ No

3. 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.: 003
Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium	7440-62-2	6.1	-	-	-	EPA 200.8

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

i. LABORATORY ACCREDITATION (Instructions, Page 49)

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

a. The laboratory is an in-house laboratory and is:
   - periodically inspected by the TCEQ; or

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

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

I, (see certification on pg. 1 of Worksheet 2 for Outfall 001), certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

_____
(Signature)

1. GENERAL TESTING REQUIREMENTS (Instructions, Pages 49-51)

1. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 10/09/2020 – 07/09/21

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

3. 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:** T-3 Laboratories for Outfall Analyses

4. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 51-62)

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 50)

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

Table 1 for Outfall No.: 004

Samples are (check one): ☐ **Composite** ☒ **Grab**

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	<2	<2	<2	3
CBOD (5-day)	<2	<2	2	3
Chemical oxygen demand	14	12	12	23
Total organic carbon	2.9	4	3.3	6.3
Dissolved oxygen	8.01	9.61	8.94	12.48
Ammonia nitrogen	<0.25	<0.25	<0.25	<0.25
Total suspended solids	11	147	81	13
Nitrate nitrogen	<0.5	<0.5	<0.5	<0.5
Total organic nitrogen	0.89	0.292	0.468	0.711
Total phosphorus	0.06	0.09	0.13	0.06
Oil and grease	5	<5	<5	<5
Total residual chlorine	0.03	-	0.02	0.01
Total dissolved solids	141	149	270	439
Sulfate	19.4	43.2	114	184
Chloride	<5	<5	11	16.6
Fluoride	<0.5	<0.5	<0.5	<0.5
Total alkalinity (mg/L as $CaCO_3$)	60	78	75	124
Temperature (°F)	74.3	64	66.3	54.2
pH (standard units)	8.6	8.3	8	7.04

Table 2 for Outfall No.: 004

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

Pollutant	Sample 1 (µg/L)		Sample 2 (µg/L)		Sample 3 (µg/L)		Sample 4 (µg/L)		MAL (µg/L)
	total	dissolved	total	dissolved	total	dissolved	total	dissolved	
Aluminum, total	866	-	3200	-	9710	-	5140	-	2.5
Aluminum (additional samples 5-7)	1880	1710	18900	3450	8240	448	-	-	2.5
Antimony, total	<0.4		<0.4		0.7		0.5		5
Arsenic, total	2		4.1		5.4		3.9		0.5
Barium, total	41.8		43.1		62.4		70		3
Beryllium, total	<0.4		<0.4		<0.4		<0.4		0.5
Cadmium, total	<0.4		<0.4		<0.4		<0.4		1
Chromium, total	5.4		11.2		7.6		8.6		3

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Chromium, hexavalent	<3.4	<10	<3.4	<10	3
Chromium, trivalent	5.4	11.2	7.6	8.6	N/A
Copper, total	3.8	3.8	4.5	4.6	2
Cyanide, available	<1.49 [CN-avail] <0.785 [CN-free]	-	<1.49 [CN-avail]	<2 [CN-avail] <2 [CN-free]	2/10
Lead, total	1.0	1.8	4.7	3.4	0.5
Mercury, total	0.004003	0.00431	0.0124	0.00663	0.005/0.0005
Nickel, total	1.2	2.2	5.2	3.6	2
Selenium, total	<3.2	<3.2	<3.2	<3.2	5
Silver, total	<0.4	<0.4	<0.4	<0.4	0.5
Thallium, total	<0.4	<0.4	<0.4	<0.4	0.5
Zinc, total	17.3	54.3	132	56.8	5.0

TABLE 3 (Instructions, Page 50)

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

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

Table 3 for Outfall No.: 004

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	-	<3	-	-	50
Anthracene	<0.57	-	-	-	10
Benzene	-	<1	-	-	10
Benzidine	<1.08	-	-	-	50
Benzo(a)anthracene	<0.62	-	-	-	5
Benzo(a)pyrene	<1.39	-	-	-	5
Bis(2-chloroethyl)ether	<1.18	-	-	-	10
Bis(2-ethylhexyl)phthalate	<3.61	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	-	<1	-	-	10
Bromoform	-	<1	-	-	10
Carbon tetrachloride	-	<1	-	-	2
Chlorobenzene	-	<1	-	-	10
Chlorodibromomethane [Dibromochloromethane]	-	<1	-	-	10
Chloroform	-	<1	-	-	10
Chrysene	<0.93	-	-	-	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
m-Cresol [3-Methylphenol]	<6.56†	-	-	-	10
o-Cresol [2-Methylphenol]	<3.28	-	-	-	10
p-Cresol [4-Methylphenol]	<6.56†	-	-	-	10
1,2-Dibromoethane	-	<1	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.87	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.67	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.41	-	-	-	10
3,3'-Dichlorobenzidine	<1.44	-	-	-	5
1,2-Dichloroethane	-	<1	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	-	15.35	-	-	10
Dichloromethane [Methylene chloride]	-	<1	-	-	20
1,2-Dichloropropane	-	<1	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	-	<1	-	-	10
2,4-Dimethylphenol	<0.87	-	-	-	10
Di-n-Butyl phthalate	<2	-	-	-	10
Ethylbenzene	-	<1	-	-	10
Fluoride	<500	<500	<500	<500	500
Hexachlorobenzene	<1.13	-	-	-	5
Hexachlorobutadiene	<0.67	-	-	-	10
Hexachlorocyclopentadiene	<2.26	-	-	-	10
Hexachloroethane	<0.77	-	-	-	20
Methyl ethyl ketone	-	<1	-	-	50
Nitrobenzene	<1.49	-	-	-	10
N-Nitrosodiethylamine	<8.2	-	-	-	20
N-Nitroso-di-n-butylamine	<8.2	-	-	-	20
Nonylphenol	<2.09	-	-	-	333
Pentachlorobenzene	<4.92	-	-	-	20
Pentachlorophenol	<0.82	-	-	-	5
Phenanthrene	<0.72	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.02	-	-	-	0.2
Pyridine	<0.57	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<8.2	-	-	-	20
1,1,2,2-Tetrachloroethane	-	<1	-	-	10
Tetrachloroethene [Tetrachloroethylene]	-	<1	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Toluene	-	<1	-	-	10
1,1,1-Trichloroethane	-	<1	-	-	10
1,1,2-Trichloroethane	-	<1	-	-	10
Trichloroethene [Trichloroethylene]	-	<1	-	-	10
2,4,5-Trichlorophenol	<1.39	-	-	-	50
TTHM (Total trihalomethanes)	-	<2	-	-	10
Vinyl chloride	-	<1	-	-	10
†Semivolatiles were analyzed by EPA Method 625.1. TCEQ does not offer accreditation for m-cresol by 625.1. Laboratory reported m+p-cresol as co-eluted. Laboratory's accreditation certificate does not include p-cresol by 625.1.					

(*) 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 50-51)

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)

iii. 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

1. 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)

ii. 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

1. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: N/A

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

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 51)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
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 52)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 004

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

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	-	17	-	-	—
Nitrate-Nitrite (as N)	☒	☐	<0.5	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO3)	☐	☒	<1	-	<1	-	—
Surfactants	☒	☐	-	<0.1	-	-	—
Boron, total	☒	☐	0.026	-	-	-	20
Cobalt, total	☒	☐	0.0002	-	-	-	0.3
Iron, total	☒	☐	0.54	-	-	-	7
Magnesium, total	☒	☐	1.43	-	-	-	20
Manganese, total	☒	☐	0.0137	-	-	-	0.5
Molybdenum, total	☒	☐	0.0027	-	-	-	1
Tin, total	☐	☒	<0.004	-	-	-	5
Titanium, total	☒	☐	0.0265	-	-	-	30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 52)

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
☐ 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

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ 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 52)

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

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

Table 8 for Outfall No.: 004 : Volatile Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<6	-	-	-	50
Acrylonitrile	<3	-	-	-	50
Benzene	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane	<1	-	-	-	10
Chloroethane	<1	-	-	-	50
2-Chloroethylvinyl ether	<6	-	-	-	10
Chloroform	<1	-	-	-	10
Dichlorobromomethane [Bromodichloromethane]	<1	-	-	-	10
1,1-Dichloroethane	<1	-	-	-	10
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	15.35	-	-	-	10
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Methyl bromide [Bromomethane]	<2	-	-	-	50
Methyl chloride [Chloromethane]	<1	-	-	-	50
Methylene chloride [Dichloromethane]	<1	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1	-	-	-	10
Toluene	<1	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 004 : Acid Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.82	-	-	-	10
2,4-Dichlorophenol	<1.13	-	-	-	10
2,4-Dimethylphenol	<0.87	-	-	-	10
4,6-Dinitro-o-cresol	<1.08	-	-	-	50
2,4-Dinitrophenol	<2.31	-	-	-	50
2-Nitrophenol	<1.44	-	-	-	20
4-Nitrophenol	<1.85	-	-	-	50
p-Chloro-m-cresol	<0.87	-	-	-	10
Pentachlorophenol	<0.82	-	-	-	5
Phenol	<0.72	-	-	-	10
2,4,6-Trichlorophenol	<1.3	-	-	-	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 004 : Base/Neutral Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<0.46	-	-	-	10
Acenaphthylene	<0.77	-	-	-	10
Anthracene	<0.57	-	-	-	10
Benzidine	<1.08	-	-	-	50
Benzo(a)anthracene	<0.62	-	-	-	5
Benzo(a)pyrene	<1.39	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.93	-	-	-	10
Benzo(ghi)perylene	<1.03	-	-	-	20
Benzo(k)fluoranthene	<0.93	-	-	-	5
Bis(2-chloroethoxy)methane	<0.57	-	-	-	10
Bis(2-chloroethyl)ether	<1.18	-	-	-	10
Bis(2-chloroisopropyl)ether	<1.39	-	-	-	10
Bis(2-ethylhexyl)phthalate	<3.61	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
4-Bromophenyl phenyl ether	<0.67	-	-	-	10
Butylbenzyl phthalate	<1.13	-	-	-	10
2-Chloronaphthalene	<0.46	-	-	-	10
4-Chlorophenyl phenyl ether	<1.08	-	-	-	10
Chrysene	<0.93	-	-	-	5
Dibenzo(a,h)anthracene	<1.13	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.67	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.87	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.41	-	-	-	10
3,3'-Dichlorobenzidine	<1.44	-	-	-	5
Diethyl phthalate	<1.03	-	-	-	10
Dimethyl phthalate	<1.18	-	-	-	10
Di-n-butyl phthalate	<2	-	-	-	10
2,4-Dinitrotoluene	<1.59	-	-	-	10
2,6-Dinitrotoluene	<2	-	-	-	10
Di-n-octyl phthalate	<4.53	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.36	-	-	-	20
Fluoranthene	<0.72	-	-	-	10
Fluorene	<0.77	-	-	-	10
Hexachlorobenzene	<1.13	-	-	-	5
Hexachlorobutadiene	<0.67	-	-	-	10
Hexachlorocyclopentadiene	<2.26	-	-	-	10
Hexachloroethane	<0.77	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.36	-	-	-	5
Isophorone	<0.46	-	-	-	10
Naphthalene	<0.51	-	-	-	10
Nitrobenzene	<1.49	-	-	-	10
N-Nitrosodimethylamine	<1.3	-	-	-	50
N-Nitrosodi-n-propylamine	<1.18	-	-	-	20
N-Nitrosodiphenylamine	<0.77	-	-	-	20
Phenanthrene	<0.72	-	-	-	10
Pyrene	<0.93	-	-	-	10
1,2,4-Trichlorobenzene	<0.87	-	-	-	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 004 : Pesticides
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin	<0.003	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.008	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.01	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.005	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.004	-	-	-	0.05
Chlordane	<0.1	-	-	-	0.2
4,4'-DDT	<0.004	-	-	-	0.02
4,4'-DDE	<0.002	-	-	-	0.1
4,4'-DDD	<0.006	-	-	-	0.1
Dieldrin	<0.003	-	-	-	0.02
Endosulfan I (alpha)	<0.003	-	-	-	0.01
Endosulfan II (beta)	<0.004	-	-	-	0.02
Endosulfan sulfate	<0.003	-	-	-	0.1
Endrin	<0.004	-	-	-	0.02
Endrin aldehyde	<0.008	-	-	-	0.1
Heptachlor	<0.005	-	-	-	0.01
Heptachlor epoxide	<0.002	-	-	-	0.01
PCB 1242	<0.02	-	-	-	0.2
PCB 1254	<0.02	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.02	-	-	-	0.2
PCB 1248	<0.02	-	-	-	0.2
PCB 1260	<0.02	-	-	-	0.2
PCB 1016	<0.02	-	-	-	0.2
Toxaphene	<0.1	-	-	-	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 53-54)

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

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
☐ hexachlorophene (HCP) CASRN 70-30-4
☒ None of the above

Description: N/A

2. 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): ☐ Composites ☐ Grabs

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

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Page 54)

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

☒ Yes ☐ No

3. 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.: 004

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

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium	7440-62-2	4.1	-	-	-	EPA 200.8

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

i. LABORATORY ACCREDITATION (Instructions, Page 49)

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

a. The laboratory is an in-house laboratory and is:

- periodically inspected by the TCEQ; or

1. located in another state and is accredited or inspected by that state; or

i. performing work for another company with a unit located in the same site; or

ii. performing pro bono work for a governmental agency or charitable organization.

1. The laboratory is accredited under federal law.
2. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
3. The laboratory supplies data for which the TCEQ does not offer accreditation.

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

I, (see certification on pg. 1 of Worksheet 2 for Outfall 001), certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

_____
(Signature)

1. GENERAL TESTING REQUIREMENTS (Instructions, Pages 49-51)

1. 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): 11/27/2020 – 7/9/21

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

3. 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:** T-3 Laboratories for Outfall Analyses

4. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 51-62)

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 50)

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

Table 1 for Outfall No.: 005

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)	5	<2	<2	<2
CBOD (5-day)	3	<2	<2	<2
Chemical oxygen demand	<10	<10	11	30
Total organic carbon	28	3.3	2.6	4.1
Dissolved oxygen	9.34	8.97	12.6	8.48
Ammonia nitrogen	<0.25	<0.25	<0.25	<0.25
Total suspended solids	9	15	187	124
Nitrate nitrogen	<0.5	<0.5	<0.5	<0.5
Total organic nitrogen	1.1	0.194	0.497	0.523
Total phosphorus	0.13	0.28	0.17	0.29
Oil and grease	5	<5	<5	<5
Total residual chlorine	-	0.01	0.01	0.01
Total dissolved solids	76	106	278	330
Sulfate	6.79	7.88	87.7	64.5
Chloride	<5	<5	17.4	17.6
Fluoride	<0.5	<0.5	<0.5	<0.5
Total alkalinity (mg/L as $CaCO_3$)	48	30	156	208
Temperature (°F)	61.9	66	47.6	69.5
pH (standard units)	8.4	8.42	8.8	8.1

Table 2 for Outfall No.: 005

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

Pollutant	Sample 1 (µg/L)		Sample 2 (µg/L)		Sample 3 (µg/L)		Sample 4 (µg/L)		MAL (µg/L)
	total	dissolved	total	dissolved	total	dissolved	total	dissolved	
Aluminum, total	69.4	-	10800	-	6520	-	3500	-	2.5
Aluminum (additional samples 5-8)	7890	398	597	146	277	271	12400	1080	2.5
Antimony, total	<0.4		<0.4		0.6		0.6		5
Arsenic, total	5.4		5		10.7		31.4		0.5
Barium, total	16.5		86.8		97.9		381		3
Beryllium, total	<0.4		0.5		0.5		2.5		0.5
Cadmium, total	<0.4		<0.4		<0.4		0.5		1
Chromium, total	<0.4		13.3		7.5		40.2		3

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Chromium, hexavalent	<3.4	<3.4	<3.4	<3.4	3
Chromium, trivalent	<0.4	13.3	7.5	40.2	N/A
Copper, total	2.4	5.4	11.1	31.2	2
Cyanide, available	<0.149 [CN-avail] <0.785 [CN-free]	<0.149 [CN-avail]	<2 [CN-avail] <2 [CN-free]	<2 [CN-avail] 4.46 [CN-free]	2/10
Lead, total	0.4	5.6	4.8	34.2	0.5
Mercury, total	0.00186	0.00919	0.00569	0.00635	0.005/0.0005
Nickel, total	<0.4	6.5	3.7	21.8	2
Selenium, total	<3.2	<3.2	<3.2	<3.2	5
Silver, total	<0.4	<0.4	<0.4	<0.4	0.5
Thallium, total	<0.4	<0.4	<0.4	<0.4	0.5
Zinc, total	7.4	60.3	94.1	1120	5.0
Zinc, total (additional samples 5-9)	97.8	57.9	17.9	17.5	5.0
	48.9	-	-	-	

TABLE 3 (Instructions, Page 50)

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.: 005

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3	-	-	-	50
Anthracene	<0.47	-	-	-	10
Benzene	<1	-	-	-	10
Benzidine	<0.89	-	-	-	50
Benzo(a)anthracene	<0.51	-	-	-	5
Benzo(a)pyrene	<1.15	-	-	-	5
Bis(2-chloroethyl)ether	<0.97	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.97	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<1	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Chloroform	<1	-	-	-	10
Chrysene	<0.77	-	-	-	5
m-Cresol [3-Methylphenol]	<5.4†	-	-	-	10
o-Cresol [2-Methylphenol]	<2.7	-	-	-	10
p-Cresol [4-Methylphenol]	<5.4†	-	-	-	10
1,2-Dibromoethane	<1	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<1	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<1	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1	-	-	-	10
3,3'-Dichlorobenzidine	<1.19	-	-	-	5
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1	-	-	-	10
Dichloromethane [Methylene chloride]	<1	-	-	-	20
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1	-	-	-	10
2,4-Dimethylphenol	<0.72	-	-	-	10
Di-n-Butyl phthalate	<1.65	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Fluoride	<500	<500	<500	<500	500
Hexachlorobenzene	<0.93	-	-	-	5
Hexachlorobutadiene	<0.55	-	-	-	10
Hexachlorocyclopentadiene	<1.86	-	-	-	10
Hexachloroethane	<0.63	-	-	-	20
Methyl ethyl ketone	<1	-	-	-	50
Nitrobenzene	<1.23	-	-	-	10
N-Nitrosodiethylamine	<6.75	-	-	-	20
N-Nitroso-di-n-butylamine	<6.75	-	-	-	20
Nonylphenol	<1.24	-	-	-	333
Pentachlorobenzene	<4.05	-	-	-	20
Pentachlorophenol	<0.68	-	-	-	5
Phenanthrene	<0.59	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.02	-	-	-	0.2
Pyridine	<0.47	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<6.75	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Tetrachloroethene [Tetrachloroethylene]	<1	-	-	-	10
Toluene	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10
1,1,2-Trichloroethane	<1	-	-	-	10
Trichloroethene [Trichloroethylene]	<1	-	-	-	10
2,4,5-Trichlorophenol	<1.15	-	-	-	50
TTHM (Total trihalomethanes)	<2	-	-	-	10
Vinyl chloride	<1	-	-	-	10
†Semivolatiles were analyzed by EPA Method 625.1. TCEQ does not offer accreditation for m-cresol by 625.1. Laboratory reported m+p-cresol as co-eluted. Laboratory's accreditation certificate does not include p-cresol by 625.1.					

(*) 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 50-51)

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)

iii. 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

1. 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)

ii. 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

1. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: N/A

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

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 51)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
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 52)

Completion of Table 6 **is required** for all **external outfalls.**

Table 6 for Outfall No.: 005

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

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	10	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	<0.5	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO3)	☐	☒	-	<1	<1	<1	—
Surfactants	☐	☒	<0.1	-	-	-	—
Boron, total	☒	☐	0.006	-	-	-	20
Cobalt, total	☒	☐	0.0002	-	-	-	0.3
Iron, total	☒	☐	0.247	-	-	-	7
Magnesium, total	☒	☐	0.91	-	-	-	20
Manganese, total	☒	☐	0.0037	-	-	-	0.5
Molybdenum, total	☒	☐	0.0012	-	-	-	1
Tin, total	☐	☒	<0.004	-	-	-	5
Titanium, total	☐	☒	<0.0044	-	-	-	30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 52)

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
☐ 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

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ 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 52)

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.: 005 : Volatile Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<6	-	-	-	50
Acrylonitrile	<3	-	-	-	50
Benzene	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane	<1	-	-	-	10
Chloroethane	<1	-	-	-	50
2-Chloroethylvinyl ether	<6	-	-	-	10
Chloroform	<1	-	-	-	10
Dichlorobromomethane [Bromodichloromethane]	<1	-	-	-	10
1,1-Dichloroethane	<1	-	-	-	10
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1	-	-	-	10
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Methyl bromide [Bromomethane]	<2	-	-	-	50
Methyl chloride [Chloromethane]	<1	-	-	-	50
Methylene chloride [Dichloromethane]	<1	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1	-	-	-	10
Toluene	<1	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 005 : Acid Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.68	-	-	-	10
2,4-Dichlorophenol	<0.93	-	-	-	10
2,4-Dimethylphenol	<0.72	-	-	-	10
4,6-Dinitro-o-cresol	<0.89	-	-	-	50
2,4-Dinitrophenol	<1.9	-	-	-	50
2-Nitrophenol	<1.19	-	-	-	20
4-Nitrophenol	<1.53	-	-	-	50
p-Chloro-m-cresol	<0.72	-	-	-	10
Pentachlorophenol	<0.68	-	-	-	5
Phenol	<0.59	-	-	-	10
2,4,6-Trichlorophenol	<1.07	-	-	-	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 005 : Base/Neutral Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<0.38	-	-	-	10
Acenaphthylene	<0.63	-	-	-	10
Anthracene	<0.47	-	-	-	10
Benzidine	<0.89	-	-	-	50
Benzo(a)anthracene	<0.51	-	-	-	5
Benzo(a)pyrene	<1.15	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.77	-	-	-	10
Benzo(ghi)perylene	<0.85	-	-	-	20
Benzo(k)fluoranthene	<0.77	-	-	-	5
Bis(2-chloroethoxy)methane	<0.47	-	-	-	10
Bis(2-chloroethyl)ether	<0.97	-	-	-	10
Bis(2-chloroisopropyl)ether	<1.15	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.97	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
4-Bromophenyl phenyl ether	<0.55	-	-	-	10
Butylbenzyl phthalate	<0.93	-	-	-	10
2-Chloronaphthalene	<0.38	-	-	-	10
4-Chlorophenyl phenyl ether	<0.89	-	-	-	10
Chrysene	<0.77	-	-	-	5
Dibenzo(a,h)anthracene	<0.93	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<1	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<1	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<1	-	-	-	10
3,3'-Dichlorobenzidine	<1.19	-	-	-	5
Diethyl phthalate	<0.85	-	-	-	10
Dimethyl phthalate	<0.97	-	-	-	10
Di-n-butyl phthalate	<1.65	-	-	-	10
2,4-Dinitrotoluene	<1.31	-	-	-	10
2,6-Dinitrotoluene	<1.65	-	-	-	10
Di-n-octyl phthalate	<3.73	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.3	-	-	-	20
Fluoranthene	<0.59	-	-	-	10
Fluorene	<0.63	-	-	-	10
Hexachlorobenzene	<0.93	-	-	-	5
Hexachlorobutadiene	<0.55	-	-	-	10
Hexachlorocyclopentadiene	<1.86	-	-	-	10
Hexachloroethane	<0.63	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.3	-	-	-	5
Isophorone	<0.38	-	-	-	10
Naphthalene	<0.42	-	-	-	10
Nitrobenzene	<1.23	-	-	-	10
N-Nitrosodimethylamine	<1.07	-	-	-	50
N-Nitrosodi-n-propylamine	<0.97	-	-	-	20
N-Nitrosodiphenylamine	<0.63	-	-	-	20
Phenanthrene	<0.59	-	-	-	10
Pyrene	<0.77	-	-	-	10
1,2,4-Trichlorobenzene	<0.72	-	-	-	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 005 : Pesticides
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin	<0.004	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.009	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.012	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.006	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.005	-	-	-	0.05
Chlordane	<0.118	-	-	-	0.2
4,4'-DDT	<0.005	-	-	-	0.02
4,4'-DDE	<0.002	-	-	-	0.1
4,4'-DDD	<0.007	-	-	-	0.1
Dieldrin	<0.004	-	-	-	0.02
Endosulfan I (alpha)	0.004	-	-	-	0.01
Endosulfan II (beta)	<0.005	-	-	-	0.02
Endosulfan sulfate	<0.004	-	-	-	0.1
Endrin	<0.005	-	-	-	0.02
Endrin aldehyde	<0.005	-	-	-	0.1
Heptachlor	<0.006	-	-	-	0.01
Heptachlor epoxide	<0.002	-	-	-	0.01
PCB 1242	<0.02	-	-	-	0.2
PCB 1254	<0.02	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.02	-	-	-	0.2
PCB 1248	<0.02	-	-	-	0.2
PCB 1260	<0.01	-	-	-	0.2
PCB 1016	<0.02	-	-	-	0.2
Toxaphene	<0.118	-	-	-	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 53-54)

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

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
☐ hexachlorophene (HCP) CASRN 70-30-4
☒ None of the above

Description: N/A

2. 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): ☐ Composites ☐ Grabs

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

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Page 54)

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

☒ Yes ☐ No

3. 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.: 005
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium	7440-62-2	16.4	-	-	-	EPA 200.8

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

i. LABORATORY ACCREDITATION (Instructions, Page 49)

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

a. The laboratory is an in-house laboratory and is:

- periodically inspected by the TCEQ; or

1. located in another state and is accredited or inspected by that state; or

i. performing work for another company with a unit located in the same site; or

ii. performing pro bono work for a governmental agency or charitable organization.

1. The laboratory is accredited under federal law.
2. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
3. The laboratory supplies data for which the TCEQ does not offer accreditation.

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

I, (see certification on pg. 1 of Worksheet 2 for Outfall 001), certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

_____
(Signature)

1. GENERAL TESTING REQUIREMENTS (Instructions, Pages 49-51)

1. 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): 11/28/2020 – 7/09/21

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

3. 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:** T-3 Laboratories for Outfall Analyses

4. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 51-62)

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 50)

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

Table 1 for Outfall No.: 006

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)	4	<2	2	<2
CBOD (5-day)	5	<2	<2	<2
Chemical oxygen demand	19	18	14	21
Total organic carbon	4	2.9	4.5	6.4
Dissolved oxygen	8.38	8.88	11.7	4.18
Ammonia nitrogen	<0.25	<0.25	<0.25	<0.25
Total suspended solids	27	140	33	18
Nitrate nitrogen	<0.5	<0.5	<0.5	<0.5
Total organic nitrogen	1.33	0.656	0.537	0.309
Total phosphorus	0.09	0.08	0.06	0.04
Oil and grease	5	<5	<5	<5
Total residual chlorine	-	0.03	0.01	<0.01
Total dissolved solids	138	78	289	415
Sulfate	26.3	14.5	80.3	92.6
Chloride	7.58	<5	15.1	28.3
Fluoride	<0.5	<0.5	<0.5	0.99
Total alkalinity (mg/L as $CaCO_3$)	74	103	132	230
Temperature (°F)	62.4	65.7	49.8	64.3
pH (standard units)	8.8	8.26	8.23	7.8

Table 2 for Outfall No.: 006

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

Pollutant	Sample 1 (µg/L)		Sample 2 (µg/L)		Sample 3 (µg/L)		Sample 4 (µg/L)		MAL (µg/L)
Aluminum, total	total	dissolved	total	dissolved	total	dissolved	total	dissolved	2.5
	1040	-	1930	-	1050	-	380	-	
Aluminum (additional samples 5-8)	2610	781	1840	164	4080	268	1940	279	2.5
Antimony, total	<0.4		<0.4		<0.4		0.4		5
Arsenic, total	3.1		3.3		3.6		3		0.5
Barium, total	35.9		32.5		79.1		132		3
Beryllium, total	<0.4		<0.4		<0.4		<0.4		0.5
Cadmium, total	<0.4		<0.4		<0.4		<0.4		1
Chromium, total	2.3		3.8		2		0.8		3

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Chromium, hexavalent	<3.4	<3.4	<3.4	<3.4	3
Chromium, trivalent	2.3	3.8	2	0.8	N/A
Copper, total	3.4	3.5	2.3	3	2
Cyanide, available	<1.49 [CN-avail] <0.785 [CN-free]	<1.49 [CN-avail]	<2 [CN-avail] <2 [CN-free]	<2 [CN-avail] 2.29 [CN-free]	2/10
Lead, total	1.3	2.2	1.1	0.4	0.5
Mercury, total	0.00338	0.0066	0.002225	0.001135	0.005/0.0005
Nickel, total	1.3	2.3	1.4	1.1	2
Selenium, total	<3.2	<3.2	<3.2	<3.2	5
Silver, total	<0.4	<0.4	<0.4	<0.4	0.5
Thallium, total	<0.4	<0.4	<0.4	<0.4	0.5
Zinc, total	19.2	107	22.3	8.6	5.0

TABLE 3 (Instructions, Page 50)

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.: 006

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3	-	-	-	50
Anthracene	<0.44	-	-	-	10
Benzene	<1	-	-	-	10
Benzidine	<0.83	-	-	-	50
Benzo(a)anthracene	<0.48	-	-	-	5
Benzo(a)pyrene	<1.06	-	-	-	5
Bis(2-chloroethyl)ether	<0.9	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.75	-	-	-	10
Bromodichloromethane [Dichlorobromomethane]	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane [Dibromochloromethane]	<1	-	-	-	10
Chloroform	<1	-	-	-	10
Chrysene	<0.71	-	-	-	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
m-Cresol [3-Methylphenol]	<5†	-	-	-	10
o-Cresol [2-Methylphenol]	<2.5	-	-	-	10
p-Cresol [4-Methylphenol]	<5†	-	-	-	10
1,2-Dibromoethane	<1	-	-	-	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<1	-	-	-	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<1	-	-	-	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1	-	-	-	10
3,3'-Dichlorobenzidine	<1.1	-	-	-	5
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1	-	-	-	10
Dichloromethane [Methylene chloride]	<1	-	-	-	20
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<1	-	-	-	10
2,4-Dimethylphenol	<0.66	-	-	-	10
Di-n-Butyl phthalate	<1.53	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Fluoride	<500	<500	<500	990	500
Hexachlorobenzene	<0.86	-	-	-	5
Hexachlorobutadiene	<0.51	-	-	-	10
Hexachlorocyclopentadiene	<1.73	-	-	-	10
Hexachloroethane	<0.59	-	-	-	20
Methyl ethyl ketone	<1	-	-	-	50
Nitrobenzene	<1.14	-	-	-	10
N-Nitrosodiethylamine	<6.25	-	-	-	20
N-Nitroso-di-n-butylamine	<6.25	-	-	-	20
Nonylphenol	<1.62	-	-	-	333
Pentachlorobenzene	<3.75	-	-	-	20
Pentachlorophenol	<0.63	-	-	-	5
Phenanthrene	<0.55	-	-	-	10
Polychlorinated biphenyls (PCBs) (**)	<0.02	-	-	-	0.2
Pyridine	<0.44	-	-	-	20
1,2,4,5-Tetrachlorobenzene	<6.25	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10
Tetrachloroethene [Tetrachloroethylene]	<1	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Toluene	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10
1,1,2-Trichloroethane	<1	-	-	-	10
Trichloroethene [Trichloroethylene]	<1	-	-	-	10
2,4,5-Trichlorophenol	<1.06	-	-	-	50
TTHM (Total trihalomethanes)	<2	-	-	-	10
Vinyl chloride	<1	-	-	-	10
†Semivolatiles were analyzed by EPA Method 625.1. TCEQ does not offer accreditation for m-cresol by 625.1. Laboratory reported m+p-cresol as co-eluted. Laboratory's accreditation certificate does not include p-cresol by 625.1.					

(*) 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 50-51)

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)

iii. 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

1. 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)

ii. 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

1. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: N/A

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

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 51)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
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 52)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 006

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

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒	<0.5	-	-	-	400
Color (PCU)	☒	☐	35	-	-	-	—
Nitrate-Nitrite (as N)	☒	☐	<0.5	-	-	-	—
Sulfide (as S)	☐	☒	<0.05	-	-	-	—
Sulfite (as SO3)	☐	☒	-	<1	<1	<1	—
Surfactants	☐	☒	<0.1	-	-	-	—
Boron, total	☒	☐	0.03	-	-	-	20
Cobalt, total	☒	☐	0.0003	-	-	-	0.3
Iron, total	☒	☐	0.58	-	-	-	7
Magnesium, total	☒	☐	2.45	-	-	-	20
Manganese, total	☒	☐	0.0119	-	-	-	0.5
Molybdenum, total	☒	☐	0.002	-	-	-	1
Tin, total	☐	☒	<0.004	-	-	-	5
Titanium, total	☒	☐	0.051	-	-	-	30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 52)

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
☐ 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

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ 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 52)

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.: 006 : Volatile Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<6	-	-	-	50
Acrylonitrile	<3	-	-	-	50
Benzene	<1	-	-	-	10
Bromoform	<1	-	-	-	10
Carbon tetrachloride	<1	-	-	-	2
Chlorobenzene	<1	-	-	-	10
Chlorodibromomethane	<1	-	-	-	10
Chloroethane	<1	-	-	-	50
2-Chloroethylvinyl ether	<6	-	-	-	10
Chloroform	<1	-	-	-	10
Dichlorobromomethane [Bromodichloromethane]	<1	-	-	-	10
1,1-Dichloroethane	<1	-	-	-	10
1,2-Dichloroethane	<1	-	-	-	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1	-	-	-	10
1,2-Dichloropropane	<1	-	-	-	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<1	-	-	-	10
Ethylbenzene	<1	-	-	-	10
Methyl bromide [Bromomethane]	<2	-	-	-	50
Methyl chloride [Chloromethane]	<1	-	-	-	50
Methylene chloride [Dichloromethane]	<1	-	-	-	20
1,1,2,2-Tetrachloroethane	<1	-	-	-	10
Tetrachloroethylene [Tetrachloroethene]	<1	-	-	-	10
Toluene	<1	-	-	-	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1	-	-	-	10
1,1,1-Trichloroethane	<1	-	-	-	10

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

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 006 : Acid Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.63	-	-	-	10
2,4-Dichlorophenol	<0.86	-	-	-	10
2,4-Dimethylphenol	<0.66	-	-	-	10
4,6-Dinitro-o-cresol	<0.83	-	-	-	50
2,4-Dinitrophenol	<1.76	-	-	-	50
2-Nitrophenol	<1.1	-	-	-	20
4-Nitrophenol	<1.41	-	-	-	50
p-Chloro-m-cresol	<0.66	-	-	-	10
Pentachlorophenol	<0.63	-	-	-	5
Phenol	<0.55	-	-	-	10
2,4,6-Trichlorophenol	<0.99	-	-	-	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 006 : Base/Neutral Compounds
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<0.35	-	-	-	10
Acenaphthylene	<0.59	-	-	-	10
Anthracene	<0.44	-	-	-	10
Benzidine	<0.83	-	-	-	50
Benzo(a)anthracene	<0.48	-	-	-	5
Benzo(a)pyrene	<1.06	-	-	-	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.71	-	-	-	10
Benzo(ghi)perylene	<0.79	-	-	-	20
Benzo(k)fluoranthene	<0.71	-	-	-	5
Bis(2-chloroethoxy)methane	<0.44	-	-	-	10
Bis(2-chloroethyl)ether	<0.9	-	-	-	10
Bis(2-chloroisopropyl)ether	<1.06	-	-	-	10
Bis(2-ethylhexyl)phthalate	<2.75	-	-	-	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
4-Bromophenyl phenyl ether	<0.51	-	-	-	10
Butylbenzyl phthalate	<0.86	-	-	-	10
2-Chloronaphthalene	<0.35	-	-	-	10
4-Chlorophenyl phenyl ether	<0.83	-	-	-	10
Chrysene	<0.71	-	-	-	5
Dibenzo(a,h)anthracene	<0.86	-	-	-	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<1	-	-	-	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<1	-	-	-	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<1	-	-	-	10
3,3'-Dichlorobenzidine	<1.1	-	-	-	5
Diethyl phthalate	<0.79	-	-	-	10
Dimethyl phthalate	<0.9	-	-	-	10
Di-n-butyl phthalate	<1.53	-	-	-	10
2,4-Dinitrotoluene	<1.21	-	-	-	10
2,6-Dinitrotoluene	<1.53	-	-	-	10
Di-n-octyl phthalate	<3.45	-	-	-	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.28	-	-	-	20
Fluoranthene	<0.55	-	-	-	10
Fluorene	<0.59	-	-	-	10
Hexachlorobenzene	<0.86	-	-	-	5
Hexachlorobutadiene	<0.51	-	-	-	10
Hexachlorocyclopentadiene	<1.73	-	-	-	10
Hexachloroethane	<0.59	-	-	-	20
Indeno(1,2,3-cd)pyrene	<0.28	-	-	-	5
Isophorone	<0.35	-	-	-	10
Naphthalene	<0.39	-	-	-	10
Nitrobenzene	<1.14	-	-	-	10
N-Nitrosodimethylamine	<0.99	-	-	-	50
N-Nitrosodi-n-propylamine	<0.9	-	-	-	20
N-Nitrosodiphenylamine	<0.59	-	-	-	20
Phenanthrene	<0.55	-	-	-	10
Pyrene	<0.71	-	-	-	10
1,2,4-Trichlorobenzene	<0.66	-	-	-	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 006 : Pesticides
Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin	<0.004	-	-	-	0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	<0.011	-	-	-	0.05
beta-BHC [beta-Hexachlorocyclohexane]	<0.013	-	-	-	0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	<0.007	-	-	-	0.05
delta-BHC [delta-Hexachlorocyclohexane]	<0.005	-	-	-	0.05
Chlordane	<0.133	-	-	-	0.2
4,4'-DDT	<0.005	-	-	-	0.02
4,4'-DDE	<0.003	-	-	-	0.1
4,4'-DDD	<0.008	-	-	-	0.1
Dieldrin	<0.004	-	-	-	0.02
Endosulfan I (alpha)	<0.004	-	-	-	0.01
Endosulfan II (beta)	<0.005	-	-	-	0.02
Endosulfan sulfate	<0.004	-	-	-	0.1
Endrin	<0.005	-	-	-	0.02
Endrin aldehyde	<0.011	-	-	-	0.1
Heptachlor	<0.007	-	-	-	0.01
Heptachlor epoxide	<0.003	-	-	-	0.01
PCB 1242	<0.02	-	-	-	0.2
PCB 1254	<0.02	-	-	-	0.2
PCB 1221	<0.02	-	-	-	0.2
PCB 1232	<0.02	-	-	-	0.2
PCB 1248	<0.02	-	-	-	0.2
PCB 1260	<0.01	-	-	-	0.2
PCB 1016	<0.02	-	-	-	0.2
Toxaphene	<0.133	-	-	-	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 53-54)

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

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
☐ hexachlorophene (HCP) CASRN 70-30-4
☒ None of the above

Description: N/A

2. 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): ☐ Composites ☐ Grabs

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

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Page 54)

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

☒ Yes ☐ No

3. 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.: 006

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

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium	7440-62-2	4	-	-	-	EPA 200.8

SAFETY DATA SHEET
FLOGARD* MS6201

1. Identification

Product identifier	**FLOGARD MS6201**
Other means of identification	None.
Recommended use	Water-based corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Tetrapotassium pyrophosphate	7320-34-5	40 - 60

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

4. First-aid measures

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

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

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

Ingestion Call a physician or poison control center immediately. Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

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

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

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

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

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

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

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

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

6. Accidental release measures

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

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

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

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

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

7. Handling and storage

Precautions for safe handling	Do not get in eyes, on skin, or on clothing. Use care in handling/storage. Alkaline. Do not mix with acidic material. Do not breathe mist or vapor. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Colorless to yellow
Physical state	Liquid
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	13
pH in aqueous solution	11.7 (5% SOL.)
Melting point/freezing point	< -30 °F (< -34 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	15 mm Hg
Vapor pressure temp.	70 °F (21 °C)

Vapor density	< 1 (Air = 1)
Relative density	1.73
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	78 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	< -30 °F (< -34 °C)
Specific gravity	1.729
VOC	0 % (Calculated)

10. Stability and reactivity

Reactivity	This product may react with oxidizing agents. May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals. Avoid contact with strong acids. Avoid contact with strong oxidizers.
Incompatible materials	Acids. Oxidizing agents. Metals. Incompatible with Aluminum.
Hazardous decomposition products	Oxides of phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
FLOGARD MS6201 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	2980 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Tetrapotassium pyrophosphate (CAS 7320-34-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
Oral		
LD50	Rat	2440 mg/kg

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

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

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

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

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

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
FLOGARD MS6201 (CAS Mixture)			
	0% Mortality	Bluegill Sunfish	500 mg/L, Static Screen, 48 H
	LC50	Fathead Minnow	785 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
	NOEL	Fathead Minnow	423 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
Aquatic			
Crustacea	LC50	Daphnia magna	660 mg/L, Static Renewal Bioassay, 48 H, (pH adjusted)
	NOEL	Daphnia magna	268 mg/L, Static Renewal Bioassay, 48 H, (pH adjusted)
Fish	LC50	Rainbow Trout	707.1 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)
	NOEL	Rainbow Trout	500 mg/L, Static Renewal Bioassay, 96 H, (pH adjusted)

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

14. Transport information

DOT

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (TETRA POTASSIUM PYROPHOSPHATE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	154

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

IATA

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (TETRA POTASSIUM PYROPHOSPHATE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	154
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (TETRA POTASSIUM PYROPHOSPHATE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

Food and drug administration The substances in this product carry FDA clearance under 21 CFR 176.170 for use as components of paper and paperboard in contact with aqueous and fatty foods.

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 152407
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Proposition 65

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

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

Issue date	Oct-07-2014
Revision date	Jun-26-2018
Version #	1.2
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Hazard(s) identification: Hazard statement Hazard(s) identification: Prevention Hazard(s) identification: Storage Composition/information on ingredients: Composition comments First-aid measures: Eye contact First-aid measures: Skin contact First-aid measures: Most important symptoms/effects, acute and delayed Accidental release measures: Methods and materials for containment and cleaning up Exposure controls/personal protection: Hand protection Toxicological information: Serious eye damage/eye irritation Transport Information: Material Transportation Information Other information, including date of preparation or last revision: Disclaimer HazReg Data: Europe - EU GHS: Classification
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
CORRSHIELD* BT4301

1. Identification

Product identifier	**CORRSHIELD BT4301**
Other means of identification	None.
Recommended use	Water-based corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Causes eye irritation. May cause respiratory irritation.
Precautionary statement	
Prevention	Avoid breathing mist/vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.
Response	Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Boric Acid (hbo2), Sodium Salt, Dihydrate	16800-11-6	20 - 40

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

4. First-aid measures

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

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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

Ingestion Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation.

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

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

5. Fire-fighting measures

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

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

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

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

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers / tanks with water spray.

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

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

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

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

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

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

Environmental precautions Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

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

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

8. Exposure controls/personal protection

Occupational exposure limits This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

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

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Colorless to light yellow
Physical state	Liquid
Odor	None
Odor threshold	Not available.
pH (concentrated product)	12
Melting point/freezing point	25 °F (-4 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	> 212 °F (> 100 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.15
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	10 cps
Viscosity temperature	70 °F (21 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	30 °F (-1 °C)
Specific gravity	1.151
VOC	0 % (Calculated)

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Prolonged or repeated contact may cause irritation.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
CORRSHIELD BT4301 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

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

Respiratory or skin sensitization

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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

Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
CORRSHIELD BT4301 (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	5500 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	1750 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
Fish	LC50	Fathead Minnow	4650 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead Minnow	2600 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)

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

Persistence and degradability

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

13. Disposal considerations

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

Inventory status

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

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

US state regulations

US. California Proposition 65

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

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Dec-04-2014
Revision date	Jun-18-2019
Version #	6.0
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
NFPA ratings	

List of abbreviations	CAS: Chemical Abstract Service Registration Number ACGIH: American Conference of Governmental Industrial Hygienists TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon TSRN indicates a Trade Secret Registry Number is used in place of the CAS number. IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SUEZ

SAFETY DATA SHEET
FERROQUEST* FQ7101

1. Identification

Product identifier	**FERROQUEST FQ7101**
Other means of identification	None.
Recommended use	Chemical cleaning compound
Recommended restrictions	Industrial use only.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification. The material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard's (29CFR 1910.1200) implementation of the Globally Harmonized System (GHS), i.e., material is not a dangerous substance or mixture requiring GHS classification.

Precautionary statement

Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

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

3. Composition/information on ingredients

Mixtures

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

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

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Rinse skin with water/shower.
Eye contact	Get medical attention if irritation develops and persists.
Ingestion	If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Store below 100°F (38°C) Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

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

Individual protection measures, such as personal protective equipment

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

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

9. Physical and chemical properties

Appearance	
Color	Colorless to amber
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	6
pH in aqueous solution	6.6 (5% SOL.)
Melting point/freezing point	18 °F (-8 °C)
Initial boiling point and boiling range	215 °F (102 °C)
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.1
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	13 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	23 °F (-5 °C)
Specific gravity	1.105
VOC	0 % (Calculated)

10. Stability and reactivity

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

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Incompatible materials	Water reactive substance.
Hazardous decomposition products	Hydrogen chloride, oxides of carbon, nitrogen, and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.

Respiratory or skin sensitization

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
FERROQUEST FQ7101 (CAS Mixture)			
Aquatic			
Crustacea	0% Mortality	Daphnia magna	2000 mg/L, Static Acute Bioassay, 48 hour
	LC50	Daphnia magna	> 2000 mg/L, Static Acute Bioassay, 48 hour
Fish	0% Mortality	Fathead Minnow	2000 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour
	LC50	Fathead Minnow	> 2000 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour

Bioaccumulative potential

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

13. Disposal considerations

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

ARSENIC (CAS 7440-38-2)
LEAD (CAS 7439-92-1)
Methanol (CAS 67-56-1)

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

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

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

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

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

Registration No. – 140930
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US. California Proposition 65

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

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

ARSENIC (CAS 7440-38-2)	Listed: February 27, 1987
LEAD (CAS 7439-92-1)	Listed: October 1, 1992

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

LEAD (CAS 7439-92-1)	Listed: February 27, 1987
Methanol (CAS 67-56-1)	Listed: March 16, 2012

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

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

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

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

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

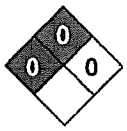
Issue date Oct-15-2014

Revision date May-06-2019

Version # 4.0

NFPA ratings Health: 0
Flammability: 0
Instability: 0

NFPA ratings



List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code
ACGIH: American Conference of Governmental Industrial Hygienists
DOT: Department of Transportation (49 CFR 172.101).
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer.
HMIRA: Hazardous Materials Information Review Act (Canada).
HPR: Hazardous Products Regulations (Canada).
OSHA: Occupational Safety & Health Administration.
TDG: Transportation of Dangerous Goods Regulations, Canada
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
WHMIS: Workplace Hazardous Materials Information System.

References: No data available

Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

SAFETY DATA SHEET
CORRSHIELD* MD4103

1. Identification

Product identifier	**CORRSHIELD MD4103**
Other means of identification	None.
Recommended use	Water-based corrosion inhibitor/deposit control agent
Recommended restrictions	None known.

Company/undertaking identification

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

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection.
Response	Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container to approved local facility.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
Sodium 4(or 5)-methyl-1H-benzotriazolide	64665-57-2	1 - 2.5
Sodium hydroxide	1310-73-2	1 - 2.5

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

4. First-aid measures

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

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

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

Ingestion Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed May cause drowsiness and dizziness. Headache. Nausea, vomiting. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

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

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

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

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

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

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

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

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Never return spills to original containers for re-use.

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

7. Handling and storage

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

Conditions for safe storage, including any incompatibilities	Store locked up. Do not store in aluminum containers. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Do not freeze. If frozen, thaw completely and mix thoroughly prior to use. Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

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

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

US. ACGIH Threshold Limit Values

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

US. NIOSH: Pocket Guide to Chemical Hazards

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

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Splash proof chemical goggles. Face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Suitable gloves can be recommended by the glove supplier. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Wash off after each use. Replace as necessary.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Yellow
Physical state	Liquid
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	13.4
pH in aqueous solution	12.2 (5% SOL.)
Melting point/freezing point	18 °F (-8 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.29
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	5 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	23 °F (-5 °C)
Specific gravity	1.29
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Contact with strong acids may cause a violent reaction releasing heat.
Conditions to avoid	Contact with incompatible materials. None under normal conditions.
Incompatible materials	Strong acids. Metals.
Hazardous decomposition products	Oxides of carbon, nitrogen, and sulphur evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Narcotic effects.

Product	Species	Test Results
CORRSHIELD MD4103 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Product	Species	Test Results
Inhalation		
LC50	Rat	> 20 mg/l, 4 Hour, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium 4(or 5)-methyl-1H-benzotriazolide (CAS 64665-57-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	735 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg

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

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

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

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

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

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

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

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

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
CORRSHIELD MD4103 (CAS Mixture)		
LC50	Fathead Minnow	3320 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
	Menidia beryllina (Silversides)	4410 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)

Product		Species	Test Results
		Mysid Shrimp	6810 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
	NOEL	Fathead Minnow	2110 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
		Menidia beryllina (Silversides)	1562 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
		Mysid Shrimp	1562 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
Aquatic			
Crustacea	0% Mortality	Daphnia magna	5000 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
Fish	LC50	Rainbow Trout	1710 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Rainbow Trout	625 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- **COD (mgO2/g)** 31 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 2 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 16 (calculated data)
- **Zahn-Wellens Test (% Degradation in 28 days)** 42 (calculated data)
- **TOC (mg C/g)** 11 (calculated data)

13. Disposal considerations

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

Local disposal regulations Dispose in accordance with all applicable regulations.

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

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

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

IATA

UN number UN1824

UN proper shipping name Sodium hydroxide solution

Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	154
Special precautions for user	Not available.

IMDG

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Not available.

IATA; IMDG

15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

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

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Corrosive to metal Skin corrosion or irritation Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

Inventory status

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

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

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

Registration No. – 144574
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US. California Proposition 65

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

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

No ingredient listed.

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

Issue date	Nov-20-2014
Revision date	Oct-03-2018
Version #	4.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Hazard(s) identification: Hazard statement Composition / Information on Ingredients: Disclosure Overrides Composition/information on ingredients: Composition comments Exposure controls/personal protection: Appropriate engineering controls Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information Regulatory information: California Prop 65 HazReg Data: Europe - EU GHS: Classification
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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

lyondellbasell

September 9, 2021

Melinda Luxemburg, P.E. (MC-148)
Water Quality Division, Wastewater Permitting, Industrial Permits
Texas Commission on Environmental Quality
P.O. Box 1308
Austin, Texas 78711-3087

Certified Mail
7019 0700 0000 6197 2803

Re: Lyondell Chemical Company (CN600344402)
Lyondell Chemical Channelview (RN100633650)
TPDES Permit No. WQ0002927000 (EPA ID No. TX0069493)
Comments on 8-27-21 draft permit

Dear Ms. Luxemburg:

Lyondell Chemical Company appreciates the opportunity to submit these comments on the draft TPDES permit and fact sheet for the Channelview facility, which the TCEQ sent on 8-27-21. The comments include the section and page numbers of the draft permit and fact sheet for your convenience.

Aluminum Permit Limits – Outfalls 002, 003, 004, 005, 006
Permit, pp. 2f-2j

Daily maximum permit limits for total aluminum have been included in the draft permit for Outfalls 002, 003, 004, 005, and 006, to become effective three years after the permit renewal is issued. Lyondell requests that the TCEQ allow a provision in the permit stating that the limit for any particular outfall would not become effective if prior to the effective date, the TCEQ approves a site-specific aluminum criterion based on either a water effect ratio or partition coefficient study and that the outfall passes screening against the WQBEL based on the criterion. Lyondell understands that the more typical procedure is for the permittee to submit an amendment application prior to the limit becoming effective in order to incorporate a site-specific criterion in the WQBEL screening; however, having such a provision already in the permit would be more efficient.

Outfall 005 Monitoring for Zinc
Permit, pg. 2i

Monitoring for total zinc for Outfall 005 was added to the draft permit because the average of the outfall samples for the TPDES application (169 milligrams per liter, mg/L) was greater than 70% of the water quality-based effluent limit (WQBEL) (165 mg/L = 0.7 x 236 mg/L). Because the outfall sample average was skewed by one particularly high value, Lyondell believes that it is not an accurate representation of the average zinc concentration. Eight zinc analyses were provided for Outfall 005. The highest value was 1120 mg/L while the other seven values ranged from 7.4-97.8 mg/L. The coefficient of variation (COV) for the eight values is 2.1. In EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD), the typical range given for the COV of effluent

Lyondell Chemical Company
2502 Sheldon Road
Channelview, TX 77530
P.O. Box 30 (77530-0030)
USA

Tel +1 281 862 4000
Fax +1 281 862 4006
lyb.com

data is 0.2-1.2, and even a value of 0.6 is considered a relatively high variability.[1] In the TSD, EPA also states that the statistical distribution for data sets with 10 or fewer samples is approximately lognormal (pg. E-2). When the outfall zinc values are transformed by taking the logarithm of each value, the COV of the transformed values is 0.4, well within the typical range (0.2-1.2) given in the TSD. The geomean or median of a dataset is an estimate of the average of values that are lognormally distributed. The geomean of the outfall samples is 54 mg/L, which is well below 70% of the WQBEL (165 mg/L).

Given that the outfall sample average (169 mg/L) is skewed by a single high value and the better estimate of the average (54 mg/L) passes the WQBEL screening, Lyondell requests that monitoring for zinc be removed from the draft permit. If, however, the TCEQ decides to retain zinc monitoring, Lyondell requests that it be only for one year, which with monthly monitoring should provide sufficient data to characterize the outfall quality.

Total Aluminum Averages – Outfalls 003, 005
Fact Sheet, X.D.2.b. Aquatic Life Criteria, Permit Action, pg. 24

The average effluent concentration for total aluminum for Outfall 003 should be 3.047 mg/L rather than 1.374 mg/L, based on the seven sample analyses provided in the TPDES application.

The average effluent concentration for total aluminum for Outfall 005 based on the application outfall samples should be 9.194 mg/L rather than 5.257 mg/L. Eight sample analyses were provided in Worksheet 2 for the TPDES application; however, when filling out the worksheet, a "0" was missed in entering the fourth value and instead of 3,500 micrograms per liter (µg/L) (3.5 mg/L), it should have been 35,000 µg/L (35 mg/L).

Daily Maximum Aluminum Limit – Outfall 004
Permit, pg. 2h

The daily maximum limit for total aluminum for Outfall 004 in the draft permit should be 2.216 mg/L rather than 2.339 mg/L, based on the results of the partition coefficient study that Lyondell submitted in December 2020. The value of 2.339 mg/L appears to have been inadvertently copied from the Outfall 003 limits table.

Single Grab Limits Below Minimum Analytical Level – Outfall 001
Draft Permit, Outfall 001 (Interim Phase), pp. 2-2a
Draft Permit, Outfall 001 (Final Phase), pp. 2c-2d

In Lyondell's earlier comments on the 7-23-21 draft permit, it requested that minimum analytical levels (MALs) be used for single grab limits for benzo(a)anthracene, benzo(a)pyrene, and hexachlorobenzene for Outfall 001 (interim and final phases) because the calculated single grab limit for each was below its MAL. In its response, the TCEQ stated that this would not be appropriate for a process wastewater outfall, and in any case, Other Requirement No. 2 of the permit, would address the issue. On the first point, Lyondell's original comment that it understood substitution of the MAL for the single grab limit to be TCEQ policy was based in part on the permit for its sister facility, Equistar Chemicals, LP Channelview Complex (TPDES permit no. WQ0000391000) that was recently renewed in March 2021. In this permit, Outfall 001 is the process wastewater outfall and for these same three compounds, the MAL of 0.005 mg/L was used for their single grab limits. Secondly, even if the TCEQ has since changed its policy on using the MAL, Lyondell is concerned that Other Requirement No. 2 could be interpreted as not applying to single grab analyses. Other Requirement No. 2 states:

---

[1] *Technical Support Document for Water Quality-based Toxics Control*, United States Environmental Protection Agency, EPA/505-2-90-001, Appendix E, pg. E-3.

"When an analysis of an effluent sample for any of the parameters listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero (0) must be used for the measurement when determining calculations and reporting requirements for the ***self-reporting form***. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other ***reportable*** results." *[emphasis added]*

Lyondell's concern is that the single grab limit may not be considered a "reportable" result because it is not included on the "self-reporting form" (i.e., the discharge monitoring report or DMR). If the TCEQ does not decide to use the MALs for benzo(a)anthracene, benzo(a)pyrene, and hexachlorobenzene for their single grab limits, then Lyondell requests that the TCEQ clarify that Other Requirement No. 2 does indeed apply to single grab limits, and it would be preferable to explicitly state this in Other Requirement No. 2.

Existing Permit Limits (Phenanthrene) – Outfall 001
Fact Sheet, Appendix D, pg. 68

In Appendix D of the fact sheet, the existing daily maximum permit limit Outfall 001 (Final Phase) for phenanthrene is 0.810 pounds per day (lb/d), not 0.864 lb/d.

If you have any questions, please feel free to contact me at 281-452-8722 or nancy.ross@lyondellbasell.com.

Sincerely,

Nancy Ross

Nancy Ross
Interim Environmental Manager – Waste & Water

File: CVOS 300-160-029