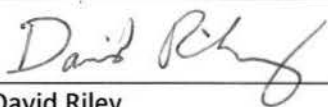
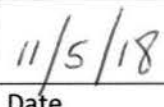
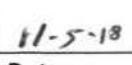


**Region 6 Compliance Assurance and Enforcement Division
INSPECTION REPORT**

Inspection Date(s):	08/27/2018 through 08/31/18		
Media:	EPCRA		
Regulatory Program(s)	Section 313 – Toxic Release Inventory (TRI) Reporting		
Company Name:	Rubicon LLC		
Facility Name:	Rubicon LLC		
Facility Physical Location:	9156 Highway 75		
	Geismar, Louisiana 70734		
Mailing address:	P.O. Box 517		
	Geismar, Louisiana 70734		
County/Parish:	Ascension Parish		
Website:	www.rubiconllc.us		
Facility Contact (for TRI):	Philip Kerr	Senior Environmental Engineer	
	(225) 242-5027		
FRS Number:	110000597373		
TRI Facility ID Number:	70734RBCNN9156H		
NAICS:	325194 - Cyclic Crude, Intermediate, & Gum & Wood Chemical Manufacturing 325211 - Plastics Material & Resin Manufacturing		
Personnel participating in the inspection:			
David Riley	US EPA Region 6	EPCRA § 313 Inspector	(214) 665-7298
John Penland	US EPA Region 6	RCRA Inspector	(214) 665-9717
Chris Simms	LDEQ	RCRA Inspector	(225) 219-3318
Cory Lormand	LDEQ	RCRA Inspector	---
Karen Price	LDEQ	RCRA Inspector	(225) 219-3612
Michelle Eaglin	Rubicon LLC	Environmental Engineering Manager	(225) 242-5590
Philip Kerr	Rubicon LLC	Senior Environmental Engineer	(225) 242-5027
Thesia Krajewski	Rubicon LLC	Senior Environmental Engineer	---
Ron Miller	Rubicon LLC	Environmental Engineer	(225) 242-5573
Christy Blanchard	Rubicon LLC	EHS Manager	(225) 242-5353
EPA Lead Inspector Signature/Date			
	David Riley		Date
Supervisor Signature/Date			
	Troy Stuckey		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

The purpose of this inspection is to evaluate compliance with Section 313 of the Emergency Planning & Community Right-to-Know Act (EPCRA) for the Rubicon LLC facility located at 9156 Highway 75, Geismar, Louisiana, 70734. The EPCRA § 313 program has not been delegated to any state, so compliance inspections are conducted by the EPA. It was conducted concurrently with a Resource Conservation and Recovery Act (RCRA) inspection led by John Penland of the EPA's Region 6 office, with several representatives of the Louisiana Department of Environmental Quality's (LDEQ) RCRA program in attendance. While the LDEQ was notified of the EPCRA § 313 portion of the inspection in advance, a representative for that program did not attend.

The EPCRA § 313 inspection covered the 2013 through 2017 calendar years and was initiated following a review of the facility's reporting history in the Toxic Release Inventory (TRI) database, which is the repository for reports submitted pursuant to EPCRA § 313. There are three criteria that a facility must meet in a calendar year to be subject to reporting for that year:

1. The facility has 10 or more full-time employees, or the equivalent of 20,000 or more hours worked by all full-time, part-time, and contract employees.
2. The facility is in a covered primary North American Industry Classification System (NAICS) code.
3. The facility manufactures, processes, or otherwise uses any listed toxic chemical above a specified threshold amount.

I arrived at the facility at 10:00 am on August 27, 2018, for an unannounced inspection, accompanied by John Penland of the EPA's Region 6 office, as well as Chris Simms, Cory Lormand, and Karen Price of the LDEQ. I met with Michelle Eaglin, Philip Kerr, Thesia Krajewski, and Ron Miller of Rubicon LLC. I presented my EPA enforcement credentials to the Rubicon representatives and informed them that part of the inspection would involve a review of the facility's manufacturing process, its annual usage of reportable toxic chemicals, and any releases, transfers, or other waste management of those chemicals. For TRI-related matters, I communicated primarily with Philip Kerr of Rubicon. Business cards are in Appendix 1.

FACILITY DESCRIPTION

Rubicon is a joint venture between Huntsman and Lanxess. The facility has been in operation since 1966 and currently has approximately 430 employees, with an additional 270 contractors. The facility produces polyurethane chemicals. Methylene diphenyl diisocyanate (MDI), diphenylamine (DPA), hydrochloric acid, ammonia, and polyether polyols are manufactured for sale. Diaminodiphenylmethane (DADPM), phosgene, aniline, and nitrobenzene are manufactured for internal use. Manufacturing facilities include two nitrobenzene plants, three aniline plants, two DPA plants, two DADPM plants, three MDI plants, three pure MDI plants, an MDI variants plant, a

specialty polyols plant, and a maleic anhydride plant. Other areas include a laboratory complex, two painting contractor yards, a maintenance building, and two closed impoundments. Wastes generated onsite are primarily directed to four Class 1 hazardous waste injection wells, or to six incinerators, five of which are coupled with industrial boilers. Wastes are also managed offsite.

Two facility maps are contained in Appendix 2.

The facility lists two NAICS Industry Codes on its TRI reports: 325194 (Cyclic Crude, Intermediate, & Gum & Wood Chemical Manufacturing) and 325211 (Plastics Material & Resin Manufacturing). Both Industry Codes are included in the Subsector Code 325 (Chemical Manufacturing), which is a covered code for TRI reporting. A general process description and flow diagrams are contained in Appendix 3.

Section II - OBSERVATIONS

CHEMICALS SUBMITTED TO THE TRI DATABASE

For each of the years 2013 – 2017, the facility submitted Form R reports for over 40 chemicals which are manufactured, processed, and/or otherwise used. These chemicals have a manufacturing or processing threshold of 25,000 pounds, and an otherwise use threshold of 10,000 pounds, except for the chemical category “dioxin and dioxin-like compounds”, which has a threshold of 0.1 grams for manufacturing, processing, or otherwise use.

Appendix 4 contains a table of chemicals submitted to the TRI database for 2013 – 2017, as well as annual chemical usage tables for 2015 – 2017 that were provided by the facility. Usage is calculated from purchase records, production reports, and other sources. The list of chemicals reported from year to year is consistent, with the following exceptions:

Chemical	Years not reported	Reason
1,4-Dichlorobenzene	2014	Usage varies from year to year.
Diaminotoluene (mixed isomers)	2016, 2017	Removed from process.
Propylene	2013, 2014	Discovered during performance test in 2015, began reporting it that year.

The facility’s usage tables show all TRI chemicals that are manufactured, processed, or otherwise used, along with whether they are used at an amount > or < threshold. As indicated, the facility opted to report some chemicals with annual usage amounts that are just below threshold. Rubicon provided verbal clarification on how certain chemicals are used in their various processes and confirmed that usage of some chemicals exceeds 1,000,000 pounds annually.

A Form A certification statement was submitted for boron trifluoride (BF₃) for each of the years 2013 – 2017. BF₃ is otherwise used as a chemical processing aid at the Reductions Plant (Aniline-1/DPA-1), where it is converted to hydrogen fluoride. BF₃ is not considered to be “persistent, bioaccumulative, and toxic” under EPCRA § 313; therefore, the facility is able to submit a Form A certification statement, instead of a Form R, provided that the following two criteria are met for a given year:

- The facility manufactures/processes/otherwise uses less than 1,000,000 lbs. of that chemical.
- The annual reportable amount (ARA) for that chemical is less than 500 lbs.

The Form A contains no usage, release, or waste management information; however, records supporting its use must be maintained. The facility provided information showing that the ARA for BF₃ is under 500 lbs., along with confirming an annual usage of less than 1,000,000 lbs.

CERTIFICATION DATES OF FORMS

Forms for each calendar year are due by July 1st of the following year. The facility submitted all forms for 2013 – 2017 before the due date, as shown on a query of the EPA’s Envirofacts database in Appendix 5. The following Form Rs were revised after the due date:

Chemical	Reporting Year	Date of Revision	Reason
Maleic anhydride	2013	July 1, 2015	Recalculation
Diaminotoluene (mixed isomers)	2015	July 21, 2016	Recalculation
Diphenylamine	2015	July 21, 2016	Recalculation
Nitrate compounds	2015	July 21, 2016	Recalculation

FORM R INFORMATION – RELEASES, TRANSFERS, OR OTHER

The forms submitted by Rubicon for each year are not included as an appendix to this report; however, a summary of releases, transfers, and other data for 2013 – 2017 is contained in Appendix 6. Due to space considerations, not all data elements have been entered into these summaries. The following Sections in Part II of the Form R contain numeric values, rather than “Not Applicable” (NA):

Section 5.1 – Fugitive or Non-Point Air Emissions: This section includes the amount of the chemical emitted on-site from fugitive or non-point sources during the calendar year. These air emissions correspond to data submitted annually by the facility to the LDEQ’s Emissions Reporting and Inventory Center (ERIC). Methods for determining fugitive air emissions include monitoring, process knowledge, and engineering judgement. 2017 ERIC data is contained in Appendix 7.

Section 5.2 – Stack or Point Air Emissions: This section includes the amount of the chemical emitted on-site from stack or point sources during the calendar year. These emissions correspond to data submitted annually by the facility to the LDEQ's ERIC. Methods for determining stack air emissions include emission factors, stack test data, process knowledge, and engineering judgement. 2017 ERIC data is contained in Appendix 7.

Section 5.3 – Discharges to Receiving Streams or Water Bodies: This section includes the amount of the chemical that is discharged on-site to a stream or water body. Rain water, cooling tower blowdown, and sanitary effluent are all directed into the Weak Effluent impoundment. After neutralization and mixing, the water is discharged to the Mississippi River under the Louisiana Pollutant Discharge Elimination System. Chlorine, which is added for disinfection, is the only chemical with a release reported in this section. The amount released is calculated via multiplication of the annual measured flow in pounds by the chlorine detection limit in mg/L. An example calculation for 2017 is contained in Appendix 8.

Section 5.4.1 – Disposal to Land On-site, Class I Underground Injection Well: This section includes the amount of the chemical that is injected into an on-site Class I well. Effluent streams from various plants are directed to the Strong Effluent Treatment Area, where they are equalized and filtered, and then injected. Calculations utilize the volume of material disposed, multiplied by the concentration of reportable chemicals from analysis. A summary of monthly data for 2017 is contained in Appendix 9.

Section 6.2 – Transfers to Other Off-Site Locations: This section includes the amount of the chemical that is transferred off-site for the purposes of disposal, treatment, energy recovery, or recycling. This includes solids, off-spec material, or chemicals that are not permitted for the on-site wells or boilers. Calculations utilize the volume of material transferred, multiplied by concentration of reportable chemicals from analysis.

Section 7A – On-Site Waste Treatment Methods and Efficiency: This section includes information on the treatment methods applied on-site to waste streams that contain the reportable chemical. Primary treatment methods used by the facility are a neutralization sequence, incineration, scrubbing, or condensing.

40 Code of Federal Regulations § 372.3 defines *Treatment for Destruction* as "...the destruction of a toxic chemical in waste such that the substance is no longer the toxic chemical subject to reporting..." Certain wastewater streams undergo a neutralization sequence on-site prior to underground injection. According to the facility, some chemicals, such as benzene, remain intact; however, other chemicals, such as 2-nitrophenol, are treated for destruction via conversion to an organic salt.

Some waste streams are sent to an incinerator. If an incinerator is not coupled to a boiler, then the chemical is treated for destruction. If an incinerator is coupled to a boiler, but the chemical has an insignificant heating value, then the chemical is treated for destruction. The facility indicates this

method on the Form R with the code "H040 Incineration--thermal destruction other than use as a fuel".

Section 7B – On-Site Energy Recovery Processes: This section includes information on energy recovery methods used on-site. Reportable energy recovery is the combustion of a waste stream containing an EPCRA § 313 chemical when:

- the combustion unit is integrated into an energy recovery system (i.e., industrial furnaces, industrial kilns, and boilers); and
- the chemical is combustible and has a significant heating value.

The facility contains six incinerators, five of which are coupled with industrial boilers: two located at the Maleic Anhydride plant, and one each at the Aniline-2, DPA-1, and DPA-2 plants (the unit at the Polyols plant is not coupled). Form Rs for 2-methylpyridine, aniline, benzene, diphenylamine, maleic anhydride, nitrobenzene, o-toluidine, phenol, & quinoline show the code "U03 Industrial Boiler".

Section 8.1a - Total On-site Disposal to Class I Underground Injection Wells, RCRA Subtitle C Landfills, and Other Landfills: This section includes the amount of the chemical from the facility that is injected into a Class I well on-site, corresponding to the information in Section 5.4.1 of the Form R.

Section 8.1b - Total Other On-site Disposal or Other Releases: This section includes the total amount of the chemical from the facility that is released to air or surface water on-site, corresponding to the information in Sections 5.1 through 5.3 of the Form R.

Section 8.1c - Total Off-site Disposal to Class I Underground Injection Wells, RCRA Subtitle C Landfills, and Other Landfills: This section includes the total amount of the chemical from the facility that is transferred off-site for disposal in landfills or UIC Class I Wells, corresponding to any chemical showing the codes M64, M65 or M81 in Section 6.2 of the Form R.

Section 8.2 – Quantity Used for Energy Recovery On-Site: This section includes the amount of the chemical from the facility which is used for energy recovery onsite during the calendar year. This only applies to chemicals with a significant heating value and corresponds to the on-site energy recovery process shown in Section 7B of the Form R.

Section 8.5 – Recycled Offsite: This section includes the amount of the chemical from the facility which is recycled offsite during the calendar year, corresponding to the applicable methods shown in Section 6.2 of the Form R. Benzene and nickel compounds show amounts in this section; specifically, solvents/organics recovery of benzene for each year, and metals recovery of nickel compounds for 2013 and 2015.

Section 8.6 – Quantity Treated On-Site: This section includes the amount of the chemical from the facility which is treated on-site during the calendar year, corresponding to the on-site waste

treatment methods shown in Section 7A of the Form R. Ethylene oxide and propylene oxide are the only chemicals that show amounts in this section, corresponding to the incineration of wastes at the polyols plant. The incinerator at the polyols plant is not coupled to an industrial boiler; therefore, the chemicals are treated for destruction. Other chemicals are shown as being incinerated on-site, but there are no corresponding treated amounts shown in this section.

Form Rs for the manufacturing byproducts 2-nitrophenol, 4-nitrophenol, 2,4-dinitrophenol, and picric acid list stripping/other/neutralization/settling/other as a treatment sequence for wastewater containing these chemicals. Prior to underground injection, they are converted to organic salts within the waste treatment sequence. This destroys the reportable chemical; however, no treated amounts are indicated in this section. The facility provided amounts of these chemicals manufactured for 2017, which would approximately equal the amounts treated for destruction:

Chemical	Pounds Manufactured for 2017
2-Nitrophenol	145,000
4-Nitrophenol	22,000
2,4-Dinitrophenol	1,800,000
Picric acid	380,000

Section 8.7 – Quantity Treated Off-Site: This section includes the amount of the chemical from the facility which is treated at an off-site location during the calendar year, corresponding to the applicable off-site waste transfers shown in Section 6.2 of the Form R.

The facility provided a summary of inputs and calculations for determining releases, transfers, and other information on the Form R. This is contained in Appendix 10.

Throughout the inspection, Rubicon staff provided tours of various areas of the facility, such as the plants, the pre-treatment area, the laboratory, and the maintenance shops. Staff also indicated the locations of the Weak Effluent impoundment and underground injection wells.

Section III – AREAS OF CONCERN

Treatment for destruction is the destruction of a toxic chemical in waste such that the substance is no longer the toxic chemical subject to reporting under EPCRA § 313. This can be achieved through methods such as incineration and neutralization. The facility specifies various onsite waste treatment methods in Section 7.A of their Form R reports, but in some cases, treated amounts are not shown in Section 8.6. Examples include the chemicals 2-nitrophenol; 4-nitrophenol; 2,4-dinitrophenol; and picric acid, which, when neutralized, are destroyed through the formation of an organic salt.

The facility staff were very cooperative throughout the discussion and tour. After a closing conference, the inspection was concluded on August 31st, 2018, at approximately 3:30pm.

Section IV – FOLLOW UP

The following information related to EPCRA § 313 was received by EPA after exiting the Facility:

1. Annual chemical usage spreadsheets for 2015 – 2017.
2. Verbal clarification on usage of BF_3 .
3. Verbal clarification on releases, transfers, and treatment.
4. Emails with responses to follow-up questions, which are contained in Appendix 11.

Section V – LIST OF APPENDICES

Appendix 1 – Business Cards
Appendix 2 – Facility Maps
Appendix 3 – Process Description & Flow Diagrams
Appendix 4 – Chemical Usage
Appendix 5 – Certification Dates of Forms
Appendix 6 – Form R Data, 2013 – 2017
Appendix 7 – Air Emissions Data, 2017
Appendix 8 – Surface Water Data, 2017
Appendix 9 – Underground Injection Well Data, 2017
Appendix 10 – Basis of Calculations
Appendix 11 – Emails

Appendix 1

Business Cards



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CHRISTOPHER G. SIMMS

Environmental Scientist - Staff
Office of Environmental Compliance
Department of Environmental Quality

Surveillance Division - CRO
P.O. Box 4312
Baton Rouge, LA 70821-4312

Phone: 225-219-3318
Fax: 225-219-3695
e-mail: chris.simms@la.gov

Appendix 2

Facility Maps

Appendix 3

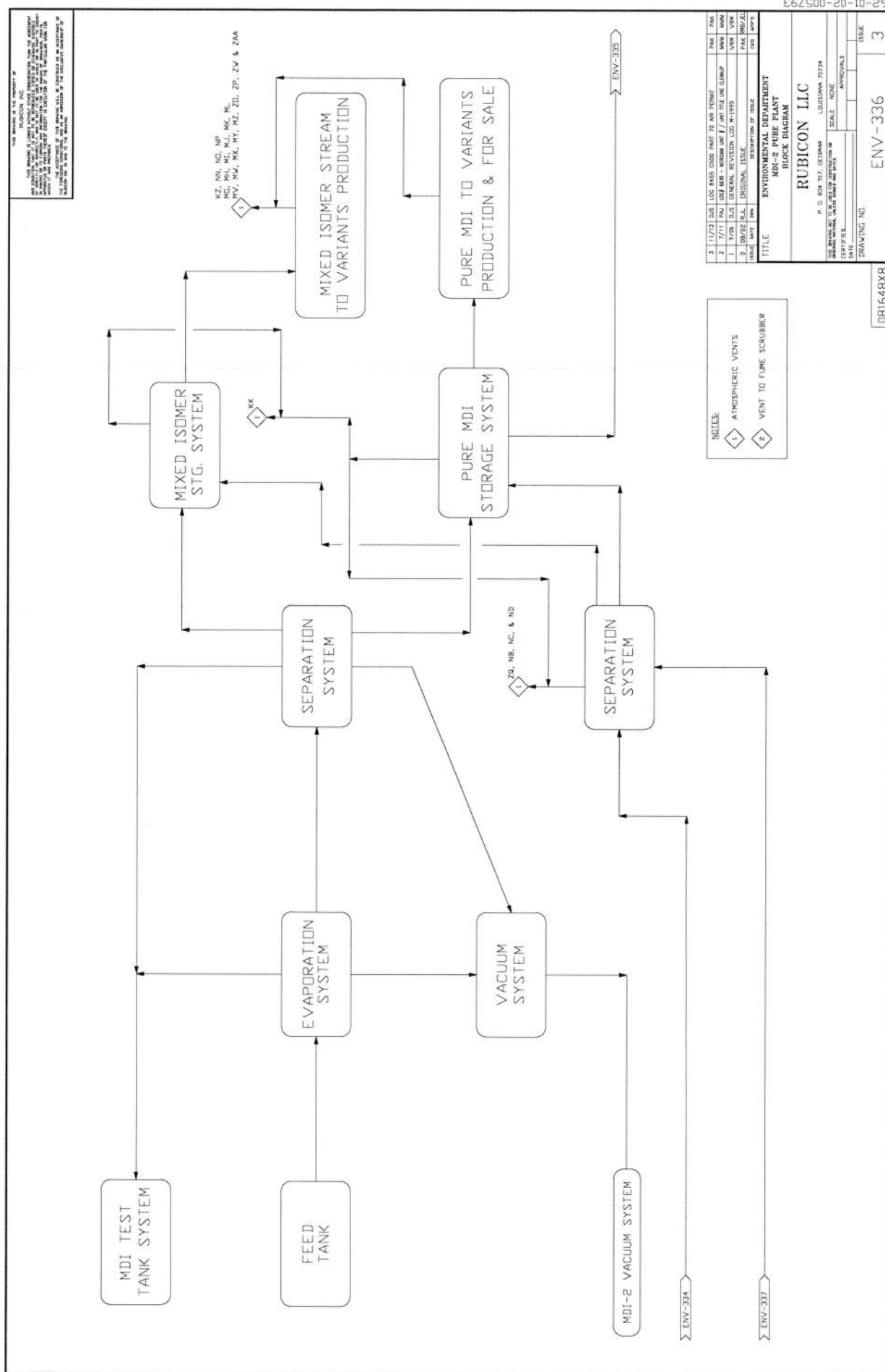
Process Description & Flow Diagrams

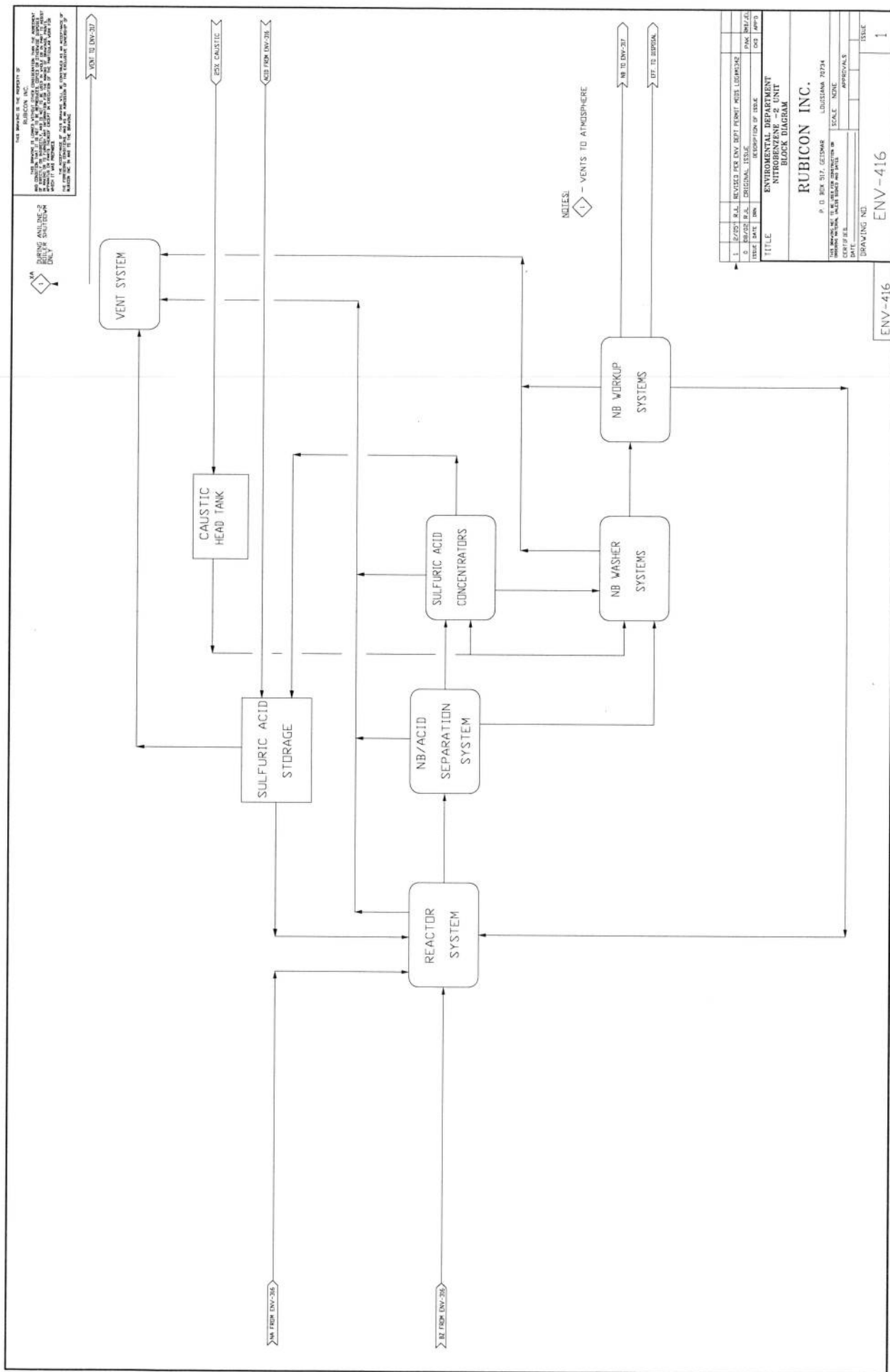
D. PROCESS DESCRIPTION

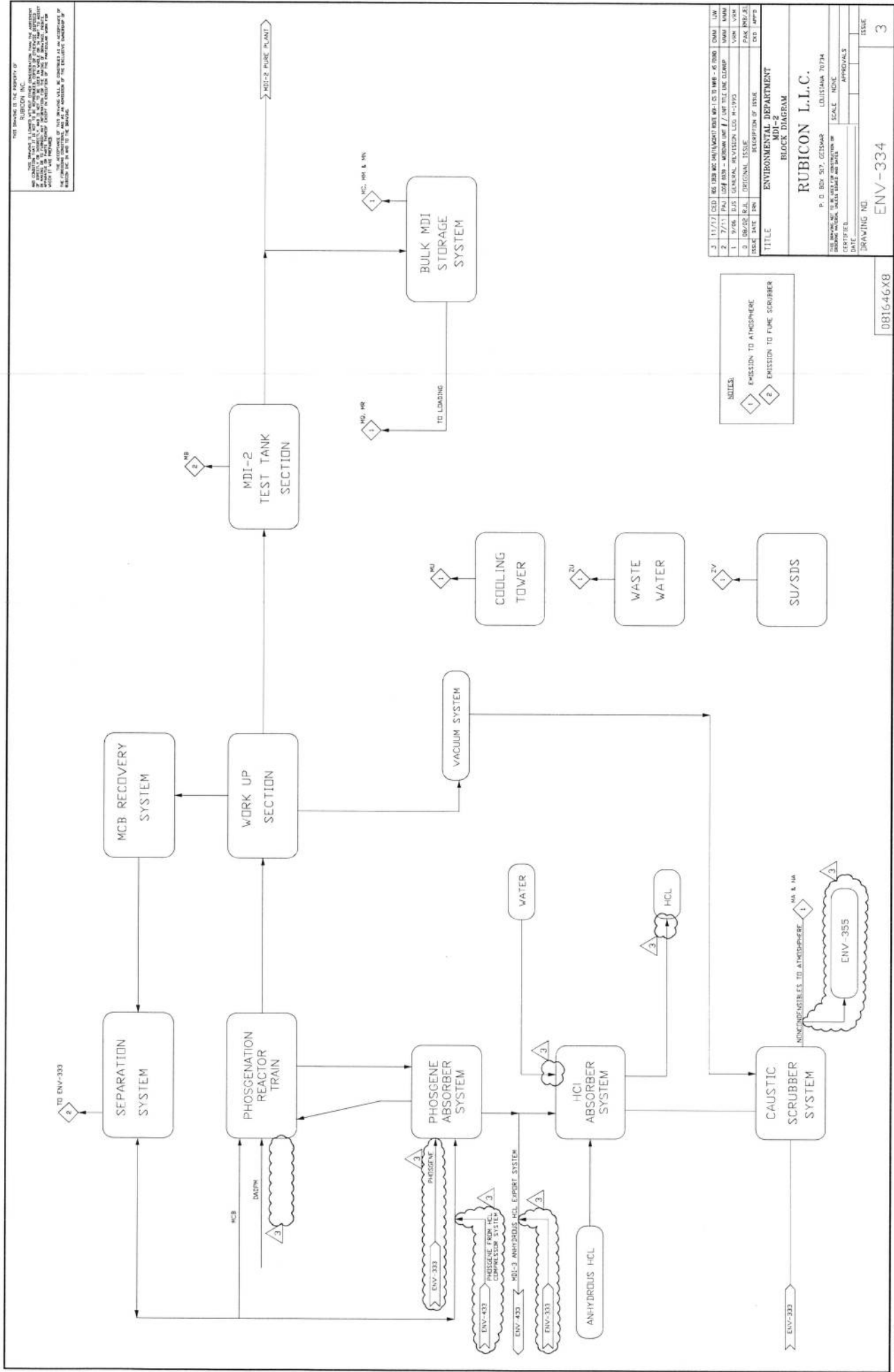
Polyols are a family of hydroxyl-terminated polyethers or hydroxyl-terminated polyesters that are reacted with isocyanates to form polyurethanes. The Polyols Plant produces various grades of polyols and polyol blends for off-site shipment. The primary products of the Polyols Plant unit include but are not limited to flexible polyols, rigid polyols and polyols containing polyurethane dispersants (PIPA).

In the Polyols process, an alcohol or amine is reacted with propylene oxide (PO) in the presence of a catalyst. Depending on the desired product, ethylene oxide (EO) may be added to convert the secondary hydroxyl polyols to primary hydroxyl polyols. The basic polyol is then neutralized with acid, dewatered, filtered and transferred to storage. PIPA polyol is produced by the reaction of an amine and methylene diphenyl diisocyanate (MDI) in a polyol solution to produce a polyurethane slurry. The various classes of polyols (flexible, rigid and PIPA) are blended with additives to control and/or modify the polyurethane properties.

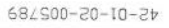
Figures depicting the Polyols processes are included in Section IV of this permit application.



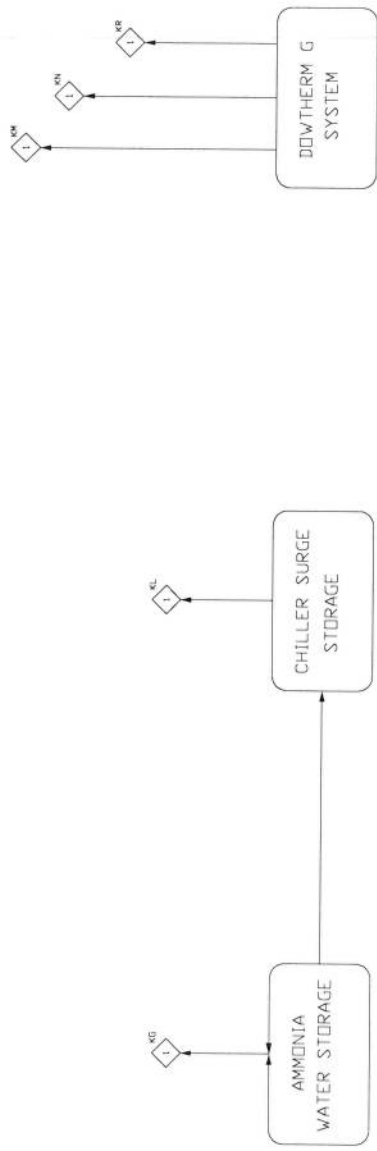








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1	5/25	DC	GENERAL REVISION USE P-1075	NON
0	10/02	PA	ORIGINAL ISSUE	NON
ISSUE	DATE	BY	REVISION OF ISSUE	FOR PARTS

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RUBICON L.L.C.

P. O. BOX 517, GEORGETOWN, LOUISIANA 70724

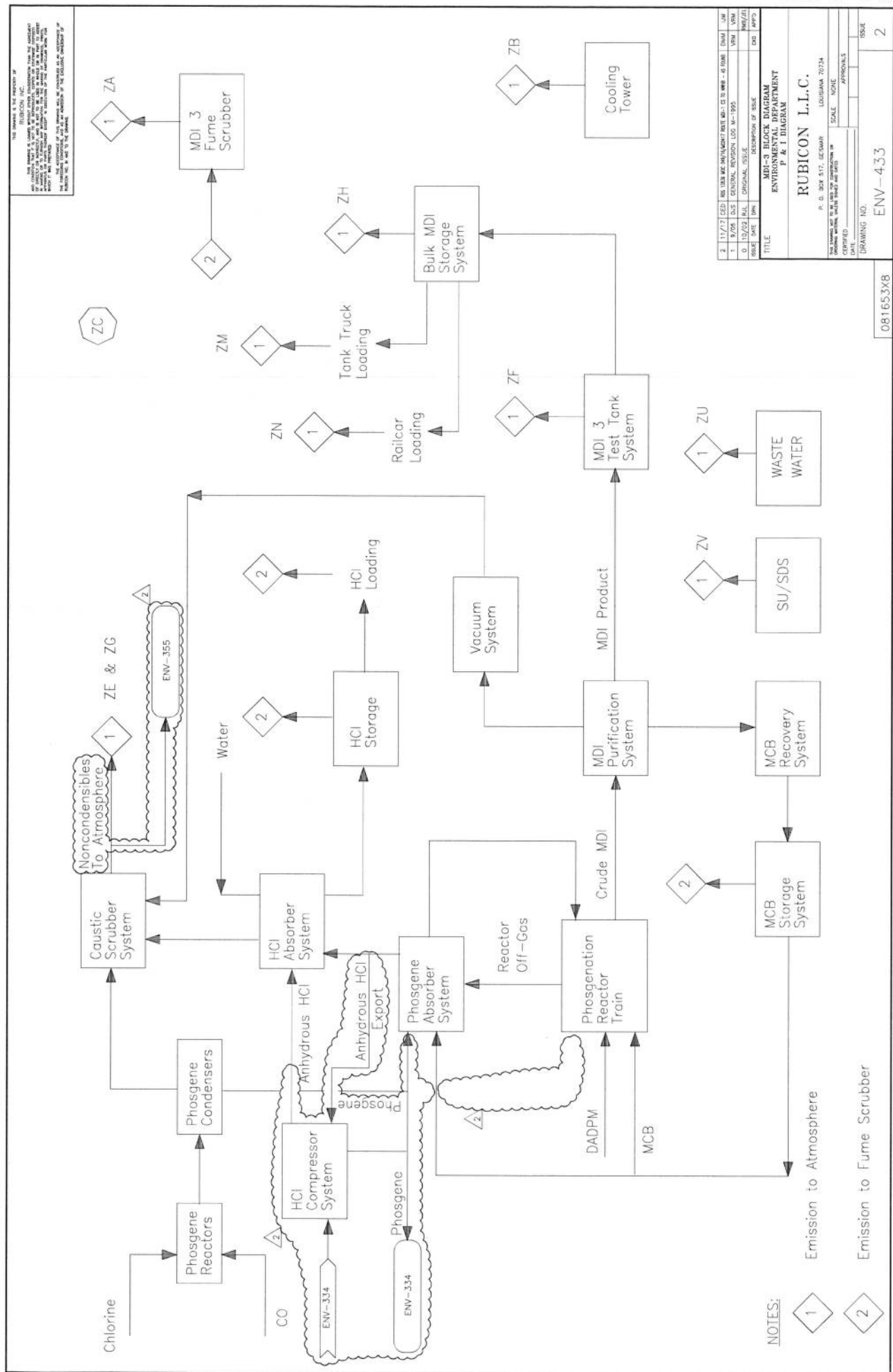
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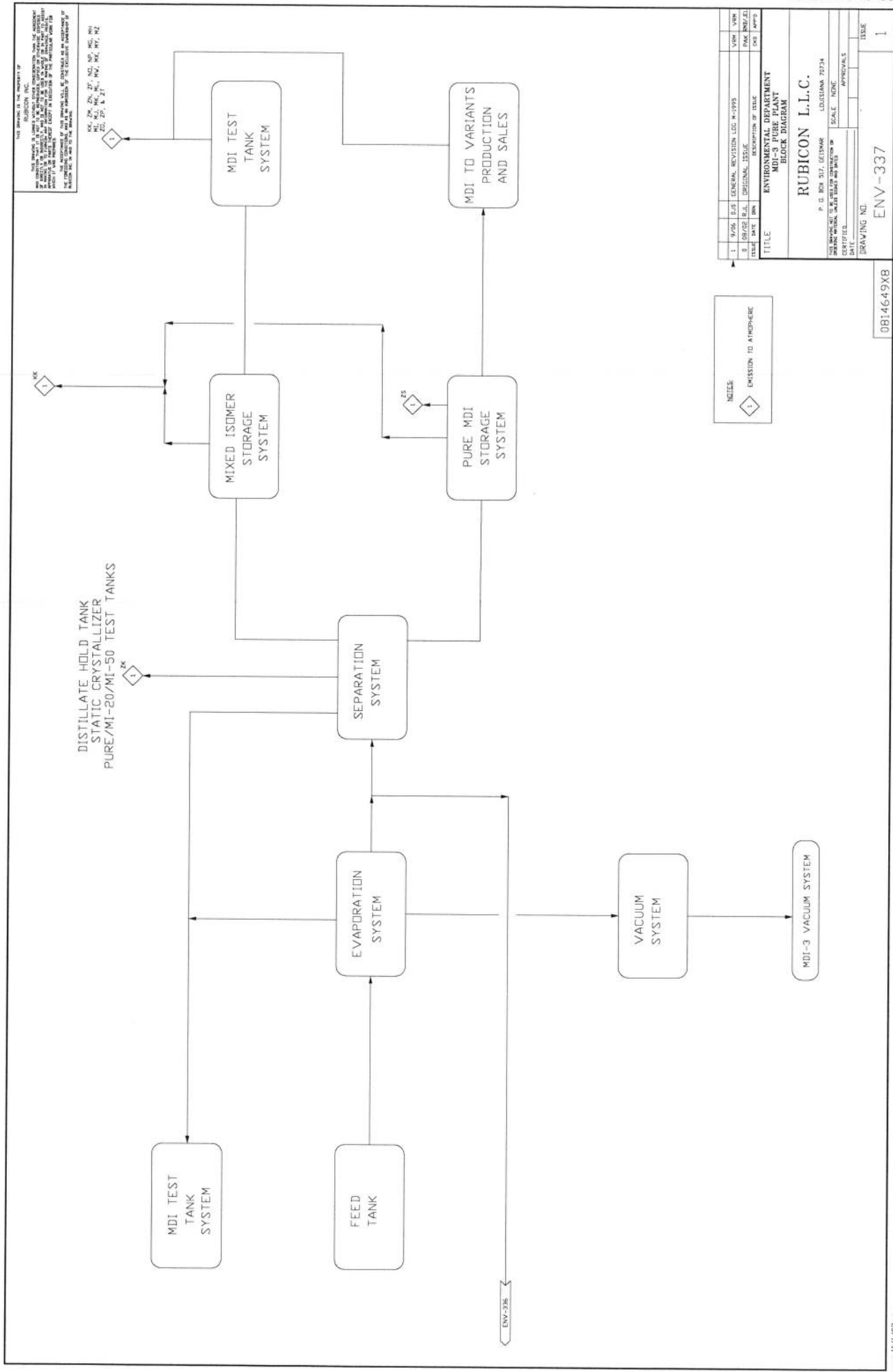
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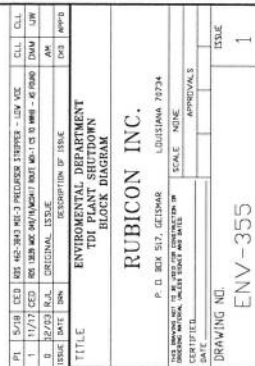
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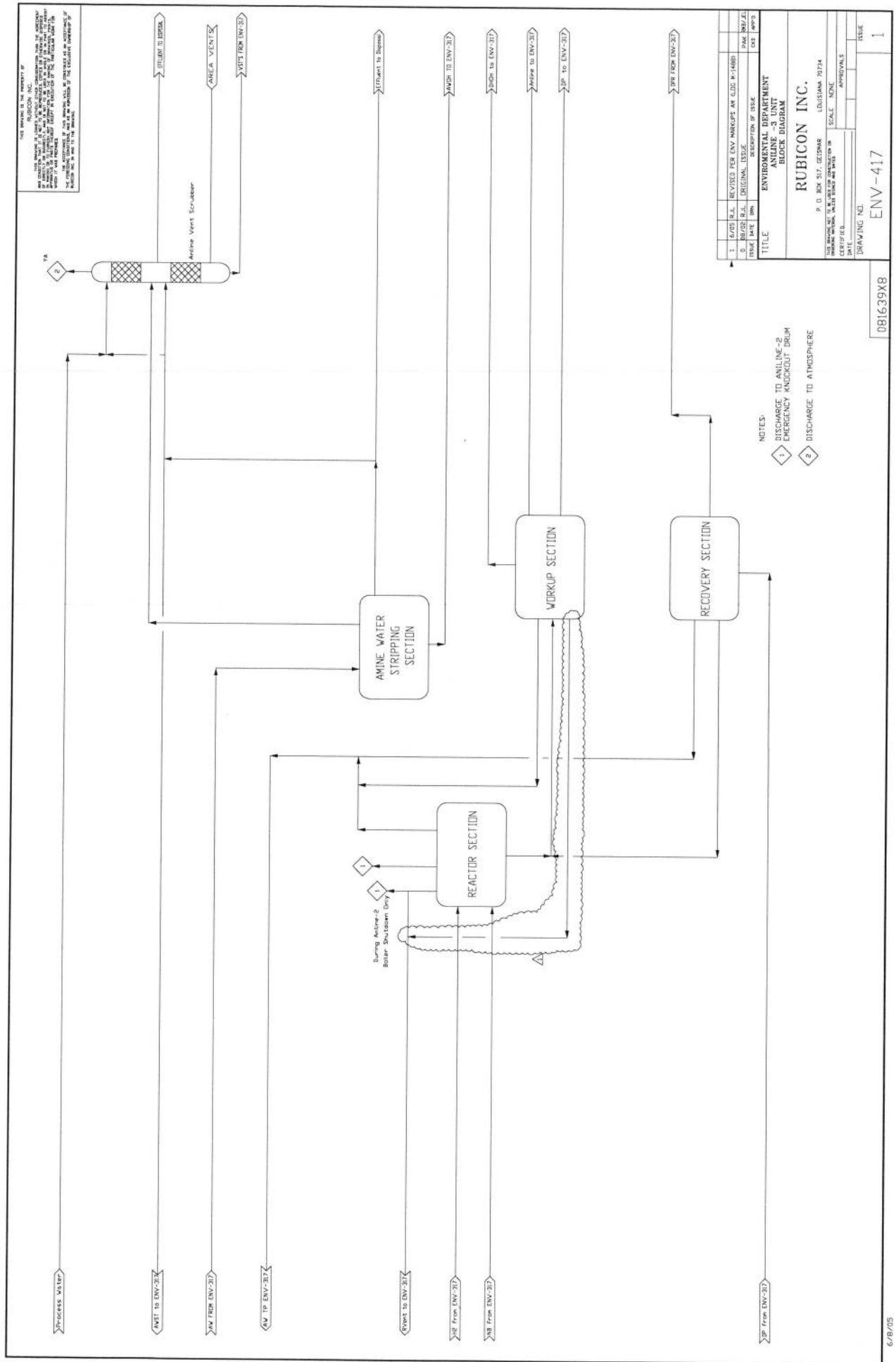
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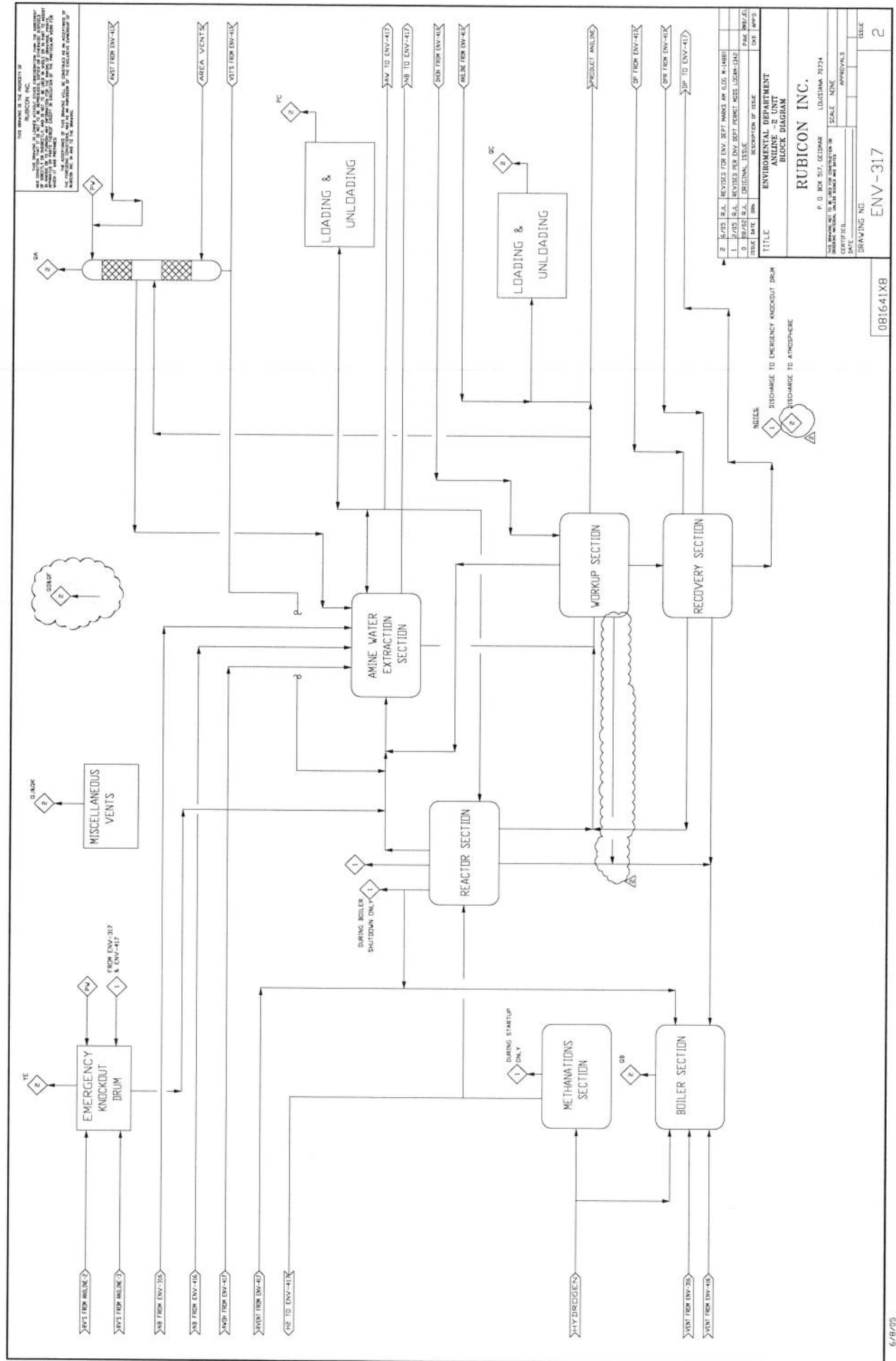
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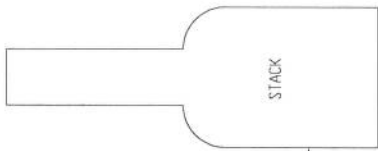






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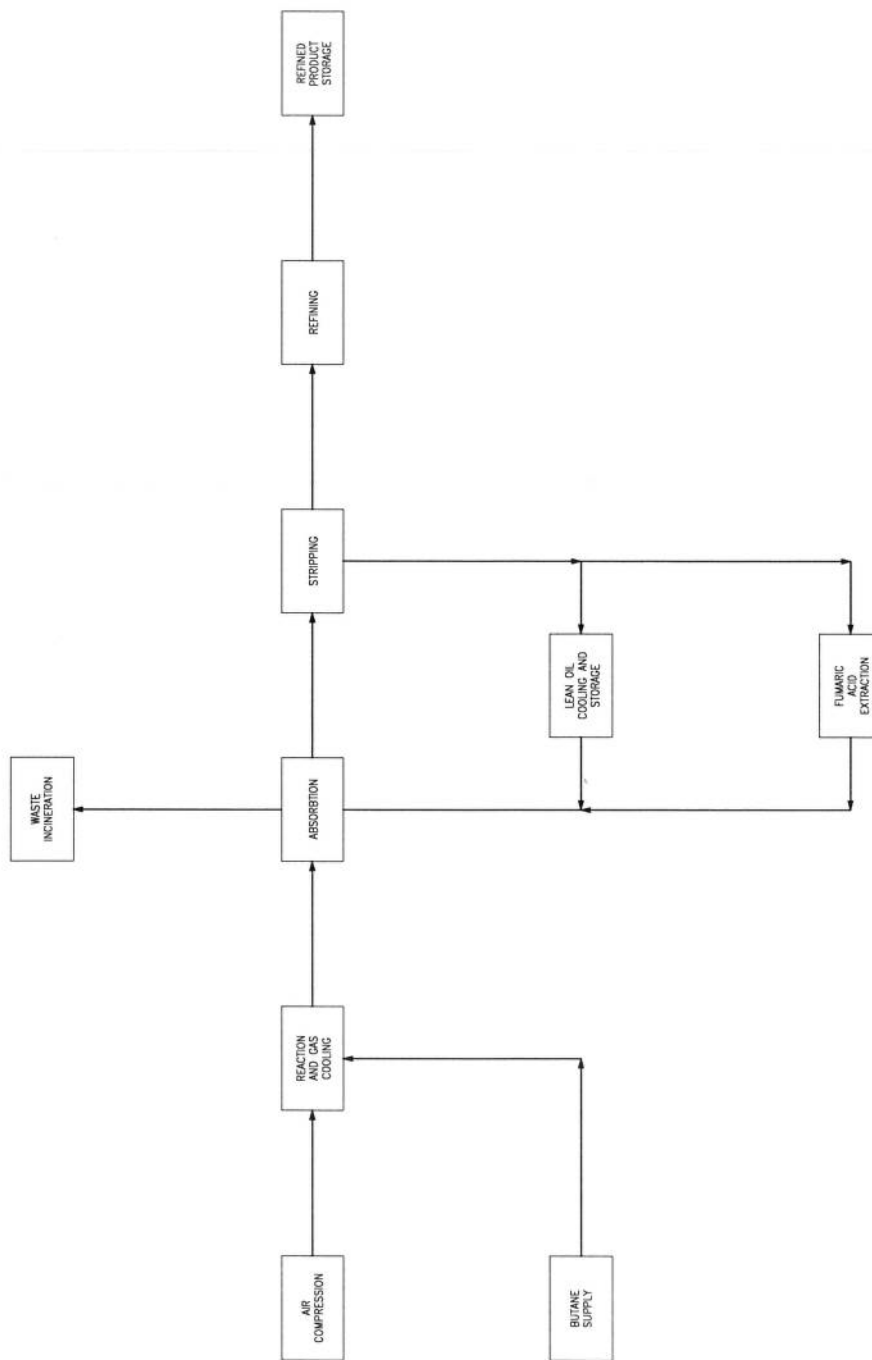
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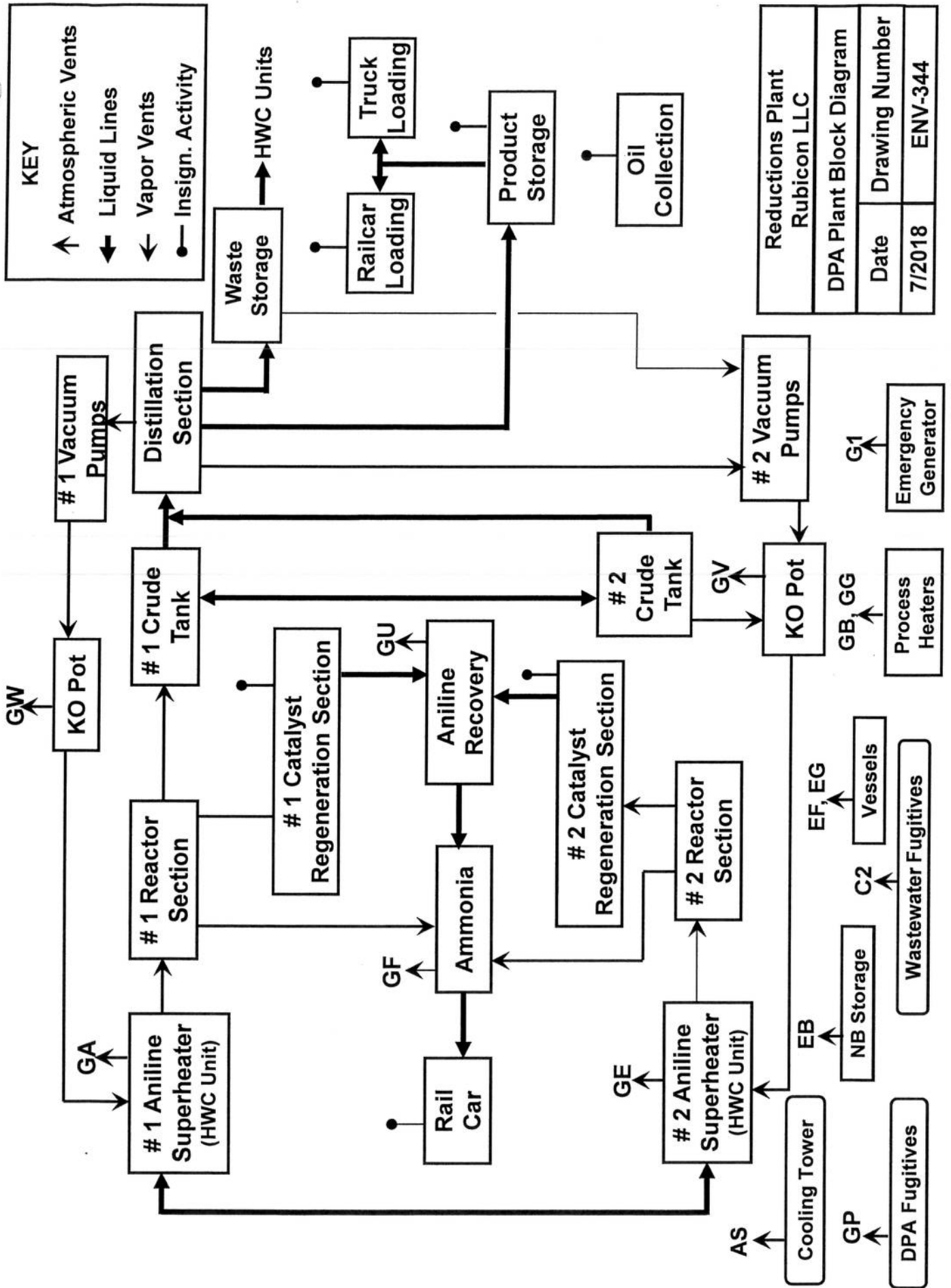


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5	6/25	S.L.	REVISION OF ISSUE		
TITLE					
ENVIRONMENTAL DEPARTMENT					
ANILINE-2 BOILER					
BLOCK DIAGRAM					
RUBICON INC.					
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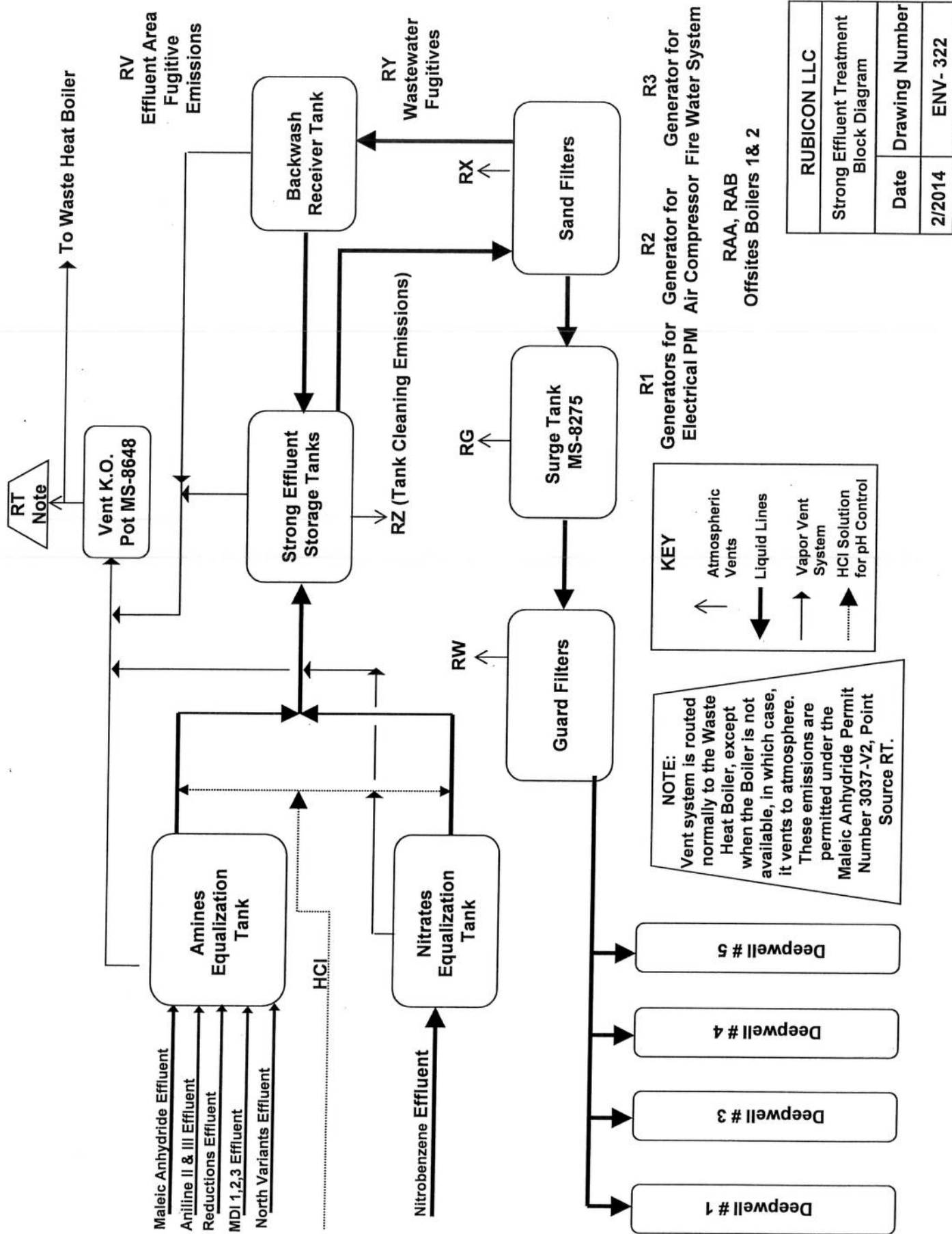
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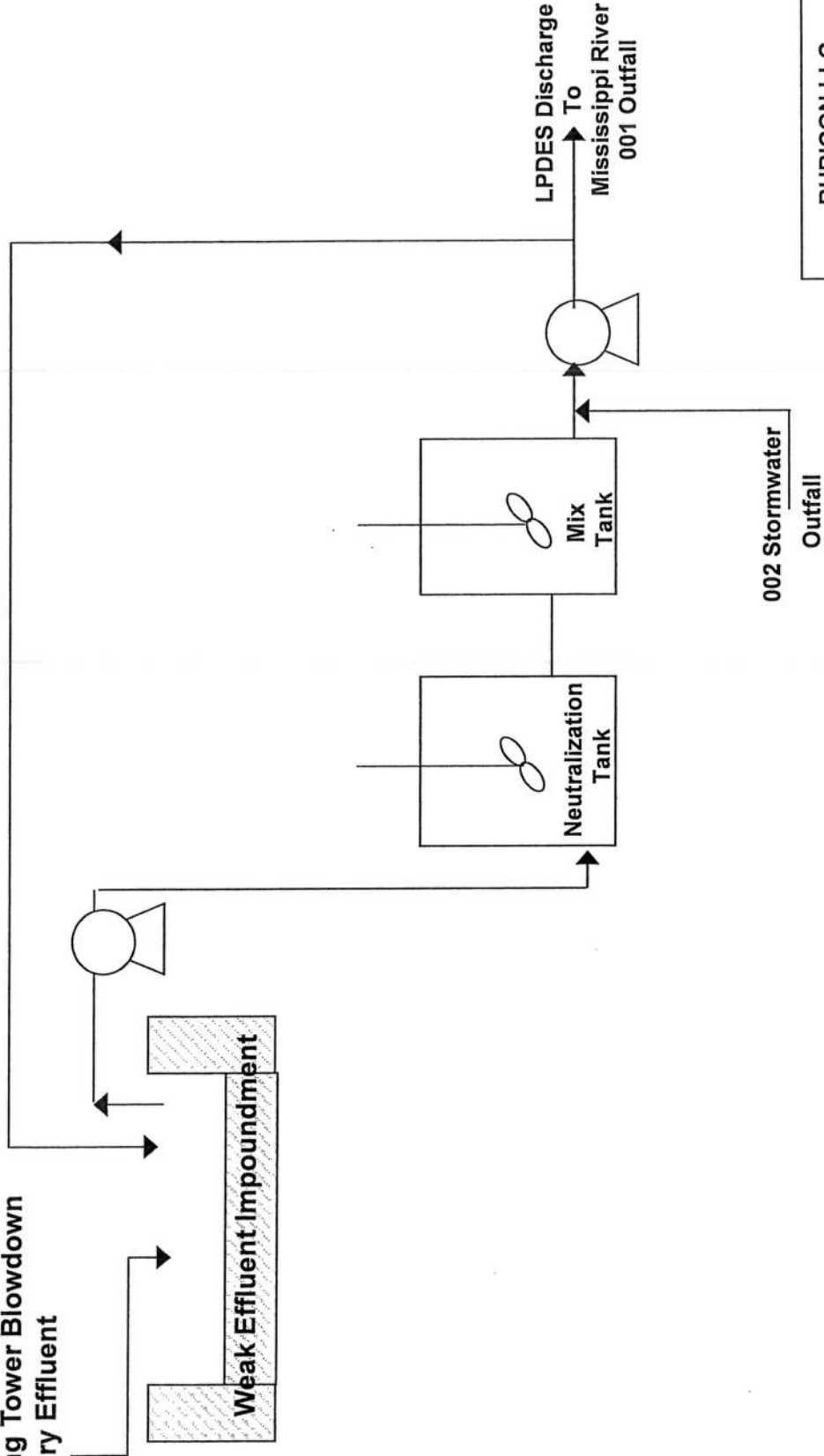


Reductions Plant Rubicon LLC	
DPA Plant Block Diagram	
Date	Drawing Number
7/2018	ENV-344



Weak Effluent Impoundment Fugitive Emissions
 ↑ RH

Uncontaminated Rainwater
 Cooling Tower Blowdown
 Sanitary Effluent



RUBICON LLC	
WEF Effluent Block Diagram	
Date	Drawing Number
2/2014	ENV- 323

Appendix 4

Chemical Usage

TRI Reporting: 5-year History

Chemical Name	2013	2014	2015	2016	2017
1,4-DICHLOROBENZENE	yes	no	yes	yes	yes
2,4-DINITROPHENOL	yes	yes	yes	yes	yes
2-METHYLPYRIDINE	yes	yes	yes	yes	yes
2-NITROPHENOL	yes	yes	yes	yes	yes
4,4'-METHYLENEDIANILINE	yes	yes	yes	yes	yes
4-NITROPHENOL	yes	yes	yes	yes	yes
ACRYLIC ACID	yes	yes	yes	yes	yes
AMMONIA	yes	yes	yes	yes	yes
ANILINE	yes	yes	yes	yes	yes
BENZENE	yes	yes	yes	yes	yes
BORON TRIFLUORIDE	yes	yes	yes	yes	yes
CARBON TETRACHLORIDE	yes	yes	yes	yes	yes
CHLORINE	yes	yes	yes	yes	yes
CHLOROBENZENE	yes	yes	yes	yes	yes
DIAMINOTOLUENE (MIXED ISOMERS)	yes	yes	yes	no	no
DIBUTYL PHTHALATE	yes	yes	yes	yes	yes
DICHLOROMETHANE	yes	yes	yes	yes	yes
DIETHANOLAMINE	yes	yes	yes	yes	yes
DIISOCYANATES	yes	yes	yes	yes	yes
DIOXIN & DIOXIN-LIKE COMPOUNDS	yes	yes	yes	yes	yes
DIPHENYLAMINE	yes	yes	yes	yes	yes
ETHYLENE GLYCOL	yes	yes	yes	yes	yes
ETHYLENE OXIDE	yes	yes	yes	yes	yes
FORMALDEHYDE	yes	yes	yes	yes	yes
HYDROCHLORIC ACID	yes	yes	yes	yes	yes
HYDROGEN FLUORIDE	yes	yes	yes	yes	yes
MALEIC ANHYDRIDE	yes	yes	yes	yes	yes
M-DINITROBENZENE	yes	yes	yes	yes	yes
METHANOL	yes	yes	yes	yes	yes
N-BUTYL ALCOHOL	yes	yes	yes	yes	yes
NICKEL COMPOUNDS	yes	yes	yes	yes	yes
NITRATE COMPOUNDS	yes	yes	yes	yes	yes
NITRIC ACID	yes	yes	yes	yes	yes
NITROBENZENE	yes	yes	yes	yes	yes
O-TOLUIDINE	yes	yes	yes	yes	yes
PHENOL	yes	yes	yes	yes	yes
PHOSGENE	yes	yes	yes	yes	yes
PICRIC ACID	yes	yes	yes	yes	yes
PROPYLENE	no	no	yes	yes	yes
PROPYLENE OXIDE	yes	yes	yes	yes	yes
QUINOLINE	yes	yes	yes	yes	yes
SODIUM NITRITE	yes	yes	yes	yes	yes
SULFURIC ACID	yes	yes	yes	yes	yes
TOLUENE	yes	yes	yes	yes	yes

Rubicon LLC
TRI Usage Summary - 2015

Description	Usage (pounds)	Reported?	Comments
1,1,1-Trichloroethane	<10,000	No	
1,2 Dichlorobenzene	<25,000	No	
1,2,4-Trimethylbenzene	<10,000	No	
1,4 Dichlorobenzene	>25,000	Yes	Form R
m-Dinitrobenzene	>25,000	Yes	Form R
2,4-Dinitrophenol	>25,000	Yes	Form R
2-Methylpyridine	>25,000	Yes	Form R
2-Nitrophenol	>25,000	Yes	Form R
4,4'-Methylenedianiline	>25,000	Yes	Form R
4-Aminobiphenyl	<25,000	No	
4-Nitrophenol	<25,000	Yes	Below threshold, reported Form R
Acetonitrile	<25,000	No	
Acrylic Acid	>25,000	Yes	Form R
Aluminum Oxide	<10,000	No	
Ammonia	>10,000	Yes	Form R
Aniline	>25,000	Yes	Form R
Antimony	<25,000	No	
Arsenic	<25,000	No	
Barium	<25,000	No	
Benzene	>25,000	Yes	Form R
Beryllium	<25,000	No	
Bifenthrin	<10,000	No	
Boron Trifluoride	<10,000	Yes	Below threshold, reported Form A
n-Butyl Alcohol	>25,000	Yes	Form R
Cadmium	<25,000	No	
Carbon Tetrachloride	>25,000	Yes	Form R
Chlorine	>10,000	Yes	Form R
Chlorobenzene	>10,000	Yes	Form R
Chlorodifluoromethane	<10,000	No	
Chloroform	<25,000	No	
Chromium	<25,000	No	
Cyclohexane	<25,000	No	
Diaminotoluene (mixed isomers)	>25,000	Yes	Form R
Dibutyl Phthalate	>10,000	Yes	Form R
Dichloromethane	<25,000	Yes	Below threshold, reported Form R
Diethanolamine	>25,000	Yes	Form R
Diisocyanates	>25,000	Yes	Form R
Dioxins and Dioxin-Like Compounds	>0.00022	Yes	Form R
Diphenylamine	>25,000	Yes	Form R
Ethylbenzene	<10,000	No	
Ethylene Glycol	>10,000	Yes	Form R
Ethylene Oxide	>25,000	Yes	Form R
Formaldehyde	>10,000	Yes	Form R
n-Hexane	<10,000	No	
Hydrochloric Acid	>10,000	Yes	Form R
Hydrogen Fluoride	<10,000	Yes	Below threshold, reported Form R
Isopropyl alcohol	<10,000	No	
Lead	<100	No	
Maleic Anhydride	>25,000	Yes	Form R
Mercury	<10	No	
Methanol	>25,000	Yes	Form R
Methyl Isobutyl Ketone	<10,000	No	

Description	Usage (pounds)	Reported?	Comments
Methyl Tert Butyl Ether	<10,000	No	
Nickel Compounds	>10,000	Yes	Form R
Nitrate Compounds	>25,000	Yes	Form R
Nitric Acid	>25,000	Yes	Form R
Nitrobenzene	>25,000	Yes	Form R
N-Nitroso-diphenylamine	<25,000	No	
o-Toluidine	>25,000	Yes	Form R
Phenol	>25,000	Yes	Form R
Phosgene	>25,000	Yes	Form R
Phosphine	<10,000	No	
Phthalic Anhydride	<25,000	No	
Picric Acid	>25,000	Yes	Form R
Polychlorinated biphenyls	<10	No	
Propylene	>25,000	Yes	Form R
Propylene Oxide	>25,000	Yes	Form R
Quinoline	>25,000	Yes	Form R
Silver	<25,000	No	
Sodium Nitrite	>10,000	Yes	Form R
Sulfuric Acid	>10,000	Yes	Form R
Thallium	<25,000	No	
Toluene	<10,000	Yes	Below threshold, reported Form R
Xylenes	<10,000	No	

Rubicon LLC
TRI Usage Summary - 2016

Description	Usage (pounds)	Reported?	Comments
1,1,1-Trichloroethane	<10,000	No	
1,2 Dichlorobenzene	<25,000	No	
1,2,4-Trimethylbenzene	<10,000	No	
1,4 Dichlorobenzene	>25,000	Yes	Form R
m-Dinitrobenzene	>25,000	Yes	Form R
2,4-Dinitrophenol	>25,000	Yes	Form R
2-Methylpyridine	>25,000	Yes	Form R
2-Nitrophenol	>25,000	Yes	Form R
4,4'-Methylenedianiline	>25,000	Yes	Form R
4-Aminobiphenyl	<25,000	No	
4-Nitrophenol	<25,000	Yes	Below threshold, reported Form R
Acetonitrile	<25,000	No	
Acrylic Acid	>25,000	Yes	Form R
Aluminum Oxide	<10,000	No	
Ammonia	>10,000	Yes	Form R
Aniline	>25,000	Yes	Form R
Antimony	<25,000	No	
Arsenic	<25,000	No	
Barium	<25,000	No	
Benzene	>25,000	Yes	Form R
Beryllium	<25,000	No	
Bifenthrin	<10,000	No	
Boron Trifluoride	>10,000, <1,000,000	Yes	Form A
n-Butyl Alcohol	>25,000	Yes	Form R
Cadmium	<25,000	No	
Carbon Tetrachloride	>25,000	Yes	Form R
Chlorine	>10,000	Yes	Form R
Chlorobenzene	>10,000	Yes	Form R
Chlorodifluoromethane	<10,000	No	
Chloroform	<25,000	No	
Chromium	<25,000	No	
Cyclohexane	<25,000	No	
Dibutyl Phthalate	>10,000	Yes	Form R
Dichloromethane	<25,000	Yes	Below threshold, reported Form R
Diethanolamine	>25,000	Yes	Form R
Diisocyanates	>25,000	Yes	Form R
Dioxins and Dioxin-Like Compounds	>0.00022	Yes	Form R
Diphenylamine	>25,000	Yes	Form R
Ethylbenzene	<10,000	No	
Ethylene Glycol	>10,000	Yes	Form R
Ethylene Oxide	>25,000	Yes	Form R
Formaldehyde	>10,000	Yes	Form R
n-Hexane	<10,000	No	
Hydrochloric Acid	>10,000	Yes	Form R
Hydrogen Fluoride	>10,000	Yes	Form R
Isopropyl alcohol	<10,000	No	
Lead	<100	No	
Maleic Anhydride	>25,000	Yes	Form R
Mercury	<10	No	
Methanol	>25,000	Yes	Form R
Methyl Isobutyl Ketone	<10,000	No	
Methyl Tert Butyl Ether	<10,000	No	

Description	Usage (pounds)	Reported?	Comments
Nickel Compounds	>10,000	Yes	Form R
Nitrate Compounds	>25,000	Yes	Form R
Nitric Acid	>25,000	Yes	Form R
Nitrobenzene	>25,000	Yes	Form R
N-Nitroso-diphenylamine	<25,000	No	
o-Toluidine	>25,000	Yes	Form R
Phenol	>25,000	Yes	Form R
Phosgene	>25,000	Yes	Form R
Phosphine	<10,000	No	
Phthalic Anhydride	<25,000	No	
Picric Acid	>25,000	Yes	Form R
Polychlorinated biphenyls	<10	No	
Propylene	>25,000	Yes	Form R
Propylene Oxide	>25,000	Yes	Form R
Quinoline	>25,000	Yes	Form R
Silver	<25,000	No	
Sodium Nitrite	>10,000	Yes	Form R
Sulfuric Acid	>10,000	Yes	Form R
Thallium	<25,000	No	
Toluene	<10,000	Yes	Below threshold, reported Form R
Xylenes	<10,000	No	

Rubicon LLC
TRI Usage Summary - 2017

Description	Usage (pounds)	Reported?	Comments
1,1,1-Trichloroethane	<10,000	No	
1,2 Dichlorobenzene	<25,000	No	
1,2,4-Trimethylbenzene	<10,000	No	
1,4 Dichlorobenzene	>25,000	Yes	Form R
m-Dinitrobenzene	>25,000	Yes	Form R
2,4-Dinitrophenol	>25,000	Yes	Form R
2-Methylpyridine	>25,000	Yes	Form R
2-Nitrophenol	>25,000	Yes	Form R
4,4'-Methylenedianiline	>25,000	Yes	Form R
4-Aminobiphenyl	<25,000	No	
4-Nitrophenol	<25,000	Yes	Below threshold, reported Form R
Acetonitrile	<25,000	No	
Acrylic Acid	>25,000	Yes	Form R
Aluminum Oxide	<10,000	No	
Ammonia	>10,000	Yes	Form R
Aniline	>25,000	Yes	Form R
Antimony	<25,000	No	
Arsenic	<25,000	No	
Barium	<25,000	No	
Benzene	>25,000	Yes	Form R
Beryllium	<25,000	No	
Bifenthrin	<10,000	No	
Boron Trifluoride	>10,000, <1,000,000	Yes	Form A
n-Butyl Alcohol	>25,000	Yes	Form R
Cadmium	<25,000	No	
Carbon Tetrachloride	>25,000	Yes	Form R
Chlorine	>10,000	Yes	Form R
Chlorobenzene	>10,000	Yes	Form R
Chlorodifluoromethane	<10,000	No	
Chloroform	<25,000	No	
Chromium	<25,000	No	
Cyclohexane	<25,000	No	
Dibutyl Phthalate	>10,000	Yes	Form R
Dichloromethane	<25,000	Yes	Below threshold, reported Form R
Diethanolamine	>25,000	Yes	Form R
Diisocyanates	>25,000	Yes	Form R
Dioxins and Dioxin-Like Compounds	>0.00022	Yes	Form R
Diphenylamine	>25,000	Yes	Form R
Ethylbenzene	<10,000	No	
Ethylene Glycol	>10,000	Yes	Form R
Ethylene Oxide	>25,000	Yes	Form R
Formaldehyde	>10,000	Yes	Form R
n-Hexane	<10,000	No	
Hydrochloric Acid	>10,000	Yes	Form R
Hydrogen Fluoride	>10,000	Yes	Form R
Isopropyl alcohol	<10,000	No	
Lead	<100	No	
Maleic Anhydride	>25,000	Yes	Form R
Mercury	<10	No	
Methanol	>25,000	Yes	Form R
Methyl Isobutyl Ketone	<10,000	No	
Methyl Tert Butyl Ether	<10,000	No	

Description	Usage (pounds)	Reported?	Comments
Nickel Compounds	>10,000	Yes	Form R
Nitrate Compounds	>25,000	Yes	Form R
Nitric Acid	>25,000	Yes	Form R
Nitrobenzene	>25,000	Yes	Form R
N-Nitroso-diphenylamine	<25,000	No	
o-Toluidine	>25,000	Yes	Form R
Phenol	>25,000	Yes	Form R
Phosgene	>25,000	Yes	Form R
Phosphine	<10,000	No	
Phthalic Anhydride	<25,000	No	
Picric Acid	>25,000	Yes	Form R
Polychlorinated biphenyls	<10	No	
Propylene	>25,000	Yes	Form R
Propylene Oxide	>25,000	Yes	Form R
Quinoline	>25,000	Yes	Form R
Silver	<25,000	No	
Sodium Nitrite	>10,000	Yes	Form R
Sulfuric Acid	>10,000	Yes	Form R
Thallium	<25,000	No	
Toluene	<10,000	Yes	Below threshold, reported Form R
Xylenes	<10,000	No	

Appendix 5

Certification Dates of Forms



TRI EZ Query Results

Page No. 1

TRI Facility Id Equal to 70734RBCNN9156H

Reporting Year Greater than/Equal to 2013

Results are based on data extracted on 12-SEP-18

Generated SQL

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Select distinct V_TRI_SUBMISSIONS_EZ.TRI_FACILITY_ID, V_TRI_SUBMISSIONS_EZ.FACILITY_NAME,
V_TRI_SUBMISSIONS_EZ.REPORTING_YEAR, V_TRI_SUBMISSIONS_EZ.CHEM_NAME, to_char(V_TRI_SUBMISSIONS_EZ.RECEIVED_DATE,
'YYYY-MM-DD'), to_char(V_TRI_SUBMISSIONS_EZ.ORIG_RECEIVED, 'YYYY-MM-DD'), V_TRI_SUBMISSIONS_EZ.REVISION_CODE_1 from
V_TRI_SUBMISSIONS_EZ where (V_TRI_SUBMISSIONS_EZ.TRI_FACILITY_ID = '70734RBCNN9156H') and
(V_TRI_SUBMISSIONS_EZ.REPORTING_YEAR >= '2013') order by V_TRI_SUBMISSIONS_EZ.REPORTING_YEAR asc ,
V_TRI_SUBMISSIONS_EZ.CHEM_NAME asc
```

TRI Facility Id	Facility Name	Reporting Year	Chemical Name	Orig Received	Received Date	Revision Code 1
70734RBCNN9156H	RUBICON LLC	2013	1,4-DICHLOROBENZENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	2,4-DINITROPHENOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	2-METHYLPYRIDINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	2-NITROPHENOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	4,4'-METHYLENEDIANILINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	4-NITROPHENOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	ACRYLIC ACID	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	AMMONIA	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	ANILINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	BENZENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	BORON TRIFLUORIDE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	CARBON TETRACHLORIDE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	CHLORINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	CHLOROBENZENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DIAMINOTOLUENE (MIXED ISOMERS)	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DIBUTYL PHTHALATE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DICHLOROMETHANE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DIETHANOLAMINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DIISOCYANATES	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DIOXIN AND DIOXIN-LIKE COMPOUNDS	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	DIPHENYLAMINE	JUN-27-2014	JUN-27-2014	

70734RBCNN9156H	RUBICON LLC	2013	ETHYLENE GLYCOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	ETHYLENE OXIDE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	FORMALDEHYDE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	HYDROGEN FLUORIDE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	M-DINITROBENZENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	MALEIC ANHYDRIDE	JUN-27-2014	JUL-01-2015	RR4
70734RBCNN9156H	RUBICON LLC	2013	METHANOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	N-BUTYL ALCOHOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	NICKEL COMPOUNDS	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	NITRATE COMPOUNDS	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	NITRIC ACID	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	NITROBENZENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	O-TOLUIDINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	PHENOL	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	PHOSGENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	PICRIC ACID	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	PROPYLENE OXIDE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	QUINOLINE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	SODIUM NITRITE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2013	TOLUENE	JUN-27-2014	JUN-27-2014	
70734RBCNN9156H	RUBICON LLC	2014	2,4-DINITROPHENOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	2-METHYLPYRIDINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	2-NITROPHENOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	4,4'-METHYLENEDIANILINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	4-NITROPHENOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	ACRYLIC ACID	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	AMMONIA	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	ANILINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	BENZENE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	BORON TRIFLUORIDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	CARBON TETRACHLORIDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	CHLORINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	CHLOROBENZENE	JUN-30-2015	JUN-30-2015	

70734RBCNN9156H	RUBICON LLC	2014	DIAMINOTOLUENE (MIXED ISOMERS)	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	DIBUTYL PHTHALATE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	DICHLOROMETHANE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	DIETHANOLAMINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	DIISOCYANATES	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	DIOXIN AND DIOXIN-LIKE COMPOUNDS	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	DIPHENYLAMINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	ETHYLENE GLYCOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	ETHYLENE OXIDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	FORMALDEHYDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	HYDROGEN FLUORIDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	M-DINITROBENZENE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	MALEIC ANHYDRIDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	METHANOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	N-BUTYL ALCOHOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	NICKEL COMPOUNDS	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	NITRATE COMPOUNDS	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	NITRIC ACID	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	NITROBENZENE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	O-TOLUIDINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	PHENOL	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	PHOSGENE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	PICRIC ACID	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	PROPYLENE OXIDE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	QUINOLINE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	SODIUM NITRITE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2014	TOLUENE	JUN-30-2015	JUN-30-2015	
70734RBCNN9156H	RUBICON LLC	2015	1,4-DICHLOROBENZENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	2,4-DINITROPHENOL	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	2-METHYLPYRIDINE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	2-NITROPHENOL	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	4,4'-METHYLENEDIANILINE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	4-NITROPHENOL	JUN-28-2016	JUN-28-2016	

70734RBCNN9156H	RUBICON LLC	2015	ACRYLIC ACID	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	AMMONIA	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	ANILINE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	BENZENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	BORON TRIFLUORIDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	CARBON TETRACHLORIDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	CHLORINE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	CHLOROBENZENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	DIAMINOTOLUENE (MIXED ISOMERS)	JUN-28-2016	JUL-21-2016	RR4
70734RBCNN9156H	RUBICON LLC	2015	DIBUTYL PHTHALATE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	DICHLOROMETHANE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	DIETHANOLAMINE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	DIISOCYANATES	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	DIOXIN AND DIOXIN-LIKE COMPOUNDS	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	DIPHENYLAMINE	JUN-28-2016	JUL-21-2016	RR4
70734RBCNN9156H	RUBICON LLC	2015	ETHYLENE GLYCOL	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	ETHYLENE OXIDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	FORMALDEHYDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	HYDROGEN FLUORIDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	M-DINITROBENZENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	MALEIC ANHYDRIDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	METHANOL	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	N-BUTYL ALCOHOL	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	NICKEL COMPOUNDS	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	NITRATE COMPOUNDS	JUN-28-2016	JUL-21-2016	RR4
70734RBCNN9156H	RUBICON LLC	2015	NITRIC ACID	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	NITROBENZENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	O-TOLUIDINE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	PHENOL	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	PHOSGENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	PICRIC ACID	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	PROPYLENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	PROPYLENE OXIDE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	QUINOLINE	JUN-28-2016	JUN-28-2016	

70734RBCNN9156H	RUBICON LLC	2015	SODIUM NITRITE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2015	TOLUENE	JUN-28-2016	JUN-28-2016	
70734RBCNN9156H	RUBICON LLC	2016	1,4-DICHLOROBENZENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	2,4-DINITROPHENOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	2-METHYLPYRIDINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	2-NITROPHENOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	4,4'-METHYLENEDIANILINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	4-NITROPHENOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	ACRYLIC ACID	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	AMMONIA	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	ANILINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	BENZENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	BORON TRIFLUORIDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	CARBON TETRACHLORIDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	CHLORINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	CHLOROBENZENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	DIBUTYL PHTHALATE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	DICHLOROMETHANE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	DIETHANOLAMINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	DIISOCYANATES	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	DIOXIN AND DIOXIN-LIKE COMPOUNDS	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	DIPHENYLAMINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	ETHYLENE GLYCOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	ETHYLENE OXIDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	FORMALDEHYDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	HYDROGEN FLUORIDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	M-DINITROBENZENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	MALEIC ANHYDRIDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	METHANOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	N-BUTYL ALCOHOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	NICKEL COMPOUNDS	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	NITRATE COMPOUNDS	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	NITRIC ACID	JUN-29-2017	JUN-29-2017	

70734RBCNN9156H	RUBICON LLC	2016	NITROBENZENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	O-TOLUIDINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	PHENOL	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	PHOSGENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	PICRIC ACID	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	PROPYLENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	PROPYLENE OXIDE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	QUINOLINE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	SODIUM NITRITE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2016	TOLUENE	JUN-29-2017	JUN-29-2017	
70734RBCNN9156H	RUBICON LLC	2017	1,4-DICHLOROBENZENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	2,4-DINITROPHENOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	2-METHYLPYRIDINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	2-NITROPHENOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	4,4'-METHYLENEDIANILINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	4-NITROPHENOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	ACRYLIC ACID	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	AMMONIA	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	ANILINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	BENZENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	BORON TRIFLUORIDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	CARBON TETRACHLORIDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	CHLORINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	CHLOROBENZENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	DIBUTYL PHTHALATE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	DICHLOROMETHANE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	DIETHANOLAMINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	DIISOCYANATES	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	DIOXIN AND DIOXIN-LIKE COMPOUNDS	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	DIPHENYLAMINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	ETHYLENE GLYCOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	ETHYLENE OXIDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	FORMALDEHYDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)	JUN-27-2018	JUN-27-2018	

70734RBCNN9156H	RUBICON LLC	2017	HYDROGEN FLUORIDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	M-DINITROBENZENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	MALEIC ANHYDRIDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	METHANOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	N-BUTYL ALCOHOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	NICKEL COMPOUNDS	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	NITRATE COMPOUNDS	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	NITRIC ACID	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	NITROBENZENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	O-TOLUIDINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	PHENOL	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	PHOSGENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	PICRIC ACID	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	PROPYLENE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	PROPYLENE OXIDE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	QUINOLINE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	SODIUM NITRITE	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)	JUN-27-2018	JUN-27-2018	
70734RBCNN9156H	RUBICON LLC	2017	TOLUENE	JUN-27-2018	JUN-27-2018	

Total number of records returned from your query: 215

Number of Records shown on this page: 215 ***

[Output to CSV File](#)

***The result set above presents a list of *unique* data in the output.

If you would like to run the query again and obtain a result set that lists all data, please click [here](#). This query can potentially take a longer time to complete, than your previous query. This is due to the larger quantity of data retrieved.

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Last updated on Wednesday, September 19th, 2018

Appendix 6
Form R Data
2013 - 2017

1,4-Dichlorobenzene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	not reported	M	M	M
Form R element					
5.1 Fugitive or non-point air	0		0	0	0
5.2 Stack or point air	2		88	88	89
5.3 Discharges to streams/water bodies	0		0	0	0
5.4.1 Underground injection onsite	NA		NA	NA	NA
5.5.4 Other disposal	NA		NA	NA	NA
6.1 POTW	0		0	0	0
6.2 Transfers to offsite locations	14,000		13,000	8,600; 6,500	15,000; 5
7.A On-site waste treatment methods	liquid waste		liquid waste	liquid waste	liquid waste
7.B On-site energy recovery processes	NA		NA	NA	NA
7.C On-site recycling processes	NA		NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA		NA	NA	NA
8.1.b Onsite disp/releases	2		88	88	89
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA		NA	NA	NA
8.1.d Other offsite disp	NA		NA	NA	NA
8.2 Energy recovery onsite	NA		NA	NA	NA
8.3 Energy recovery offsite	NA		NA	NA	NA
8.4 Recycled onsite	NA		NA	NA	NA
8.5 Recycled offsite	NA		NA	NA	NA
8.6 Treated onsite	NA		NA	NA	NA
8.7 Treated offsite	14,000		13,000	15,000	15,000
Annual Reportable Amount (Σ 8.1-8.7)	14,002		13,088	15,088	15,089

driley:
produce,
byproduct,
impurity

driley:
incin.,
incin.

driley:
incineration

2,4-Dinitrophenol

Reporting year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	6	2	1	3	5
7.A On-site waste treatment methods	wastewater	wastewater	wastewater	wastewater	wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	6	2	1	3	5
Annual Reportable Amount (Σ 8.1-8.7)	6	2	1	3	5

driley:
produce,
byproduct,
impurity

driley:
incineration

driley:
neutralization,
air/steam
stripping,
settling, other

2-Methylpyridine

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	910	980	1,050	950	860
5.3 Discharges to streams/water bodies	NA	NA	NA	NA	NA
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	liquid waste	liquid waste	liquid waste	liquid waste	liquid waste
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.		NA	NA	NA	NA
8.1.b Onsite disp/releases	910	980	1,050	950	860
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	130,000	130,000	140,000	130,000	140,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	130,910	130,980	141,050	130,950	140,860

driley:
produce,
byproduct,
impurity

driley:
incineration

2-Nitrophenol

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	NA	NA	NA	NA	NA
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	wastewater	wastewater	wastewater	wastewater	wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	0	0	0	0	0

driley:
produce,
byproduct,
impurity

driley:
neutralization,
air/steam
stripping,
settling, other

4,4'-Methylenedianiline

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, P	M, P	M, P	M, P	M, P
Form R element					
5.1 Fugitive or non-point air	22	0	0	0	0
5.2 Stack or point air	31	30	30	30	30
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	140,000	190,000	310,000	140,000	160,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 23,000	130; 25,000	240; 19,000; 1,400	130; 270,000	170; 1,500; 24,000
7.A On-site waste treatment methods	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	140,000	190,000	310,000	140,000	160,000
8.1.b Onsite disp/releases	53	30	30	30	30
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	130	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	23,000	25,000	20,400	270,000	26,000
Annual Reportable Amount (Σ 8.1-8.7)	163,153	215,160	330,670	410,160	186,200

driley:
produce, onsite
use/processing,
sale/distribution;
reactant

driley:
landfill;
incineration;
incineration

driley:
scrubber;
neut.,
stripping,
settling, other

4-Nitrophenol

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	NA	NA	NA	NA	NA
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	wastewater	wastewater	wastewater	wastewater	wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	0	0	0	0	0

driley:
produce,
byproduct,
impurity

driley:
neutralization,
air/steam
stripping,
settling, other

Acrylic acid

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	380	390	390	380	710
5.2 Stack or point air	1,700	1,600	1,800	1,700	1,900
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	gaseous	gaseous	gaseous	gaseous	gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	2,100	2,000	2,190	2,080	2,600
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	2,100	2,000	2,190	2,080	2,600

driley:
produce,
byproduct

driley:
incineration

Ammonia

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, P, OU	M, P, OU	M, P, OU	M, P, OU	M, P, OU
Form R element					
5.1 Fugitive or non-point air	7,100	2,100	2,100	2,100	2,100
5.2 Stack or point air	7,800	19,000	14,000	13,000	14,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	350,000	700,000	550,000	740,000	720,000
5.5.4 Other disposal		NA	NA	NA	NA
6.1 POTW		0	0	0	0
6.2 Transfers to offsite locations	480	47	29	51	320
7.A On-site waste treatment methods	gaseous; wastewater; gaseous	gaseous; wastewater; gaseous	gaseous; wastewater; gaseous	gaseous; wastewater; gaseous	gaseous; wastewater; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	350,000	700,000	550,000	740,000	720,000
8.1.b Onsite disp/releases	15,000	21,000	16,100	15,000	16,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	480	47	29	51	320
Annual Reportable Amount (Σ 8.1-8.7)	365,480	721,047	566,129	755,051	736,320

driley:
produce, onsite
use/processing,
sale/dist.,
byproduct;
reactant; chem.
proc. aid

driley:
incineration

driley:
absorber;
neut., settling,
other;
scrubber

Aniline

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, P	M, P	M, P	M, P	M, P
Form R element					
5.1 Fugitive or non-point air	6,600	4,900	5,000	4,800	4,800
5.2 Stack or point air	20,000	22,000	17,000	15,000	13,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	1,700,000	1,500,000	2,200,000	1,900,000	2,100,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 12,000	150; 6,900	240; 7,200; 4,000	130; 50,000	170; 4,100; 8,200
7.A On-site waste treatment methods	wastewater; liquid waste; gaseous; gaseous	wastewater; liquid waste; gaseous; gaseous	wastewater; liquid waste; gaseous; gaseous	wastewater; liquid waste; gaseous; gaseous	wastewater; liquid waste; gaseous; gaseous
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	1,700,000	1,500,000	2,200,000	1,900,000	2,100,000
8.1.b Onsite disp/releases	27,000	27,000	22,000	20,000	18,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	150	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	1,900,000	1,700,000	1,700,000	1,400,000	1,700,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	12,000	6,900	11,200	50,000	12,000
Annual Reportable Amount (Σ 8.1-8.7)	3,639,100	3,234,050	3,933,440	3,370,130	3,830,170

driley:
produce, on-site
use/processing,
sale/dist.;
reactant

driley:
landfill;
incineration;
incineration

driley:
neutralization,
settling, other;
incineration;
scrubber;
condenser

Benzene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	P	P
Form R element					
5.1 Fugitive or non-point air	1,400	1,400	1,500	1,200	1,500
5.2 Stack or point air	25,000	21,500	17,000	14,000	13,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	5,900	1,700	3,400	2,900	3,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 320; 7	130; 200; 6	240; 59; 7	130; 17; 5	170; 79; 1
7.A On-site waste treatment methods	wastewater; wastewater; liquid waste; gaseous; gaseous	wastewater; wastewater; liquid waste; gaseous; gaseous	wastewater; wastewater; liquid waste; gaseous; gaseous	wastewater; wastewater; liquid waste; gaseous; gaseous	wastewater; wastewater; liquid waste; gaseous; gaseous
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	5,900	1,700	3,400	2,900	3,000
8.1.b Onsite disp/releases	26,000	23,000	18,500	15,000	15,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	130	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	730,000	510,000	450,000	260,000	290,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	7	6	7	5	1
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	320	200	59	17	79
Annual Reportable Amount (Σ 8.1-8.7)	762,327	535,036	472,206	278,052	308,250

driley:
reactant

driley:
Subt C landfill;
incineration;
solvents/organics
recovery

driley:
neutralization,
stripping, settling,
other; neut.,
settling, other;
incineration;
scrubber;
condenser,
scrubber,
incineration

Boron trifluoride

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	FORM A	FORM A	FORM A	FORM A	FORM A
Form R element					
5.1 Fugitive or non-point air					
5.2 Stack or point air					
5.3 Discharges to streams/water bodies					
5.4.1 Underground injection onsite					
5.5.4 Other disposal					
6.1 POTW					
6.2 Transfers to offsite locations					
7.A On-site waste treatment methods					
7.B On-site energy recovery processes					
7.C On-site recycling processes					
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.					
8.1.b Onsite disp/releases					
8.1.c Offsite disp - UI wells, RCRA landfills, etc.					
8.1.d Other offsite disp					
8.2 Energy recovery onsite					
8.3 Energy recovery offsite					
8.4 Recycled onsite					
8.5 Recycled offsite					
8.6 Treated onsite					
8.7 Treated offsite					

Carbon tetrachloride

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	950	950	950	950	950
5.2 Stack or point air	27,000	27,000	26,000	24,000	30,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	4,800	4,300	4,300	2,900; 2,200	2; 10,000
7.A On-site waste treatment methods	wastewater; wastewater; gaseous; gaseous	wastewater; wastewater; gaseous; gaseous	wastewater; wastewater; gaseous; gaseous	wastewater; wastewater; gaseous; gaseous	wastewater; wastewater; gaseous; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	28,000	28,000	26,950	25,000	31,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	4,800	4,300	4,300	5,100	10,000
Annual Reportable Amount (Σ 8.1-8.7)	32,800	32,300	31,250	30,100	41,000

driley:
produce,
byproduct

driley:
incineration;
incineration

driley:
neut., settling,
other; neut.,
settling, other;
scrubber;
absorber,
scrubber, incin.

Chlorine

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P, OU	P, OU	P, OU	P, OU	P, OU
Form R element					
5.1 Fugitive or non-point air	7	0	0	7	2
5.2 Stack or point air	140	460	480	500	490
5.3 Discharges to streams/water bodies	110	120	100	120	130
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	gaseous; gaseous; wastewater; gaseous	gaseous; gaseous; wastewater; gaseous	gaseous; gaseous; wastewater; gaseous	gaseous; gaseous; wastewater; gaseous	gaseous; gaseous; wastewater; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	260	580	580	630	620
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	260	580	580	630	620

driley:
Reactant; manf
aid,
ancillary/other

driley:
absorber,
scrubber;
scrubber;
neutralization
settling, other;
absorber,
scrubber

Chlorobenzene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	OU	OU	OU	OU	OU
Form R element					
5.1 Fugitive or non-point air	12,000	12,000	13,000	11,000	13,000
5.2 Stack or point air	150,000	160,000	150,000	140,000	180,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	140,000	110,000	150,000	120,000	190,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 250,000	140; 150,000	240; 18,000; 170,000	130; 71,000; 110,000	170; 180,000; 40,000
7.A On-site waste treatment methods	gaseous; wastewater; gaseous; wastewater	gaseous; wastewater; gaseous; wastewater	gaseous; wastewater; gaseous; wastewater	gaseous; wastewater; gaseous; wastewater	gaseous; wastewater; gaseous; wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	140,000	110,000	150,000	120,000	190,000
8.1.b Onsite disp/releases	160,000	170,000	163,000	150,000	193,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	140	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	250,000	150,000	188,000	180,000	220,000
Annual Reportable Amount (Σ 8.1-8.7)	550,100	430,140	501,240	450,130	603,170

driley:
chemical
processing
aid

driley:
Subt C landfill;
incineration;
incineration

driley:
scrubber,
incineration;
neut, settling,
other;
scrubber; neut.,
settling, other

Diaminotoluene (mixed isomers)

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	not reported	not reported
Form R element					
5.1 Fugitive or non-point air	0	0	0		
5.2 Stack or point air	14	14	18		
5.3 Discharges to streams/water bodies	0	0	0		
5.4.1 Underground injection onsite	200	210	0		
5.5.4 Other disposal	NA	NA	NA		
6.1 POTW	0	0	0		
6.2 Transfers to offsite locations	100; 8,600	130; 1,700	240; 654		
7.A On-site waste treatment methods	liquid waste; liquid waste	liquid waste; wastewater	liquid waste; wastewater		
7.B On-site energy recovery processes	NA	NA	NA		
7.C On-site recycling processes	NA	NA	NA		
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	200	210	0		
8.1.b Onsite disp/releases	14	14	18		
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	130	240		
8.1.d Other offsite disp	NA	NA	NA		
8.2 Energy recovery onsite	NA	NA	NA		
8.3 Energy recovery offsite	NA	NA	NA		
8.4 Recycled onsite	NA	NA	NA		
8.5 Recycled offsite	NA	NA	NA		
8.6 Treated onsite	NA	NA	NA		
8.7 Treated offsite	8,600	1,700	654		
Annual Reportable Amount (Σ 8.1-8.7)	8,914	2,054	912		

driley:
reactant

driley:
Subt. C landfill;
incineration

driley:
incineration;
other, settling,
neutralization,
other

Dibutyl phthalate

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P, OU	P, OU	P, OU	P, OU	P, OU
Form R element					
5.1 Fugitive or non-point air	13	16	8	8	250
5.2 Stack or point air	430	420	430	410	490
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	27,000	6,800	12,000	4,500	22,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 7	150; 750	240; 8,900; 9,700	130; 720	170; 10,000; 7,100
7.A On-site waste treatment methods	gaseous; wastewater; liquid waste	gaseous; wastewater; liquid waste	gaseous; wastewater; gaseous	gaseous; wastewater; gaseous	gaseous; wastewater; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	27,000	6,800	12,000	4,500	22,000
8.1.b Onsite disp/releases	440	440	438	418	740
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	150	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	7	750	18,600	720	17,000
Annual Reportable Amount (§ 8.1-8.7)	27,547	8,140	31,278	5,768	39,910

driley:
reactant,
ancillary/other

driley:
landfill; incin.;
incin.

driley:
incineration;
neut., other;
incin., condenser

Dichloromethane

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	220	220	220	220	220
5.2 Stack or point air	430	820	520	520	560
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100	130	240	130	170
7.A On-site waste treatment methods	gaseous; gaseous; wastewater	gaseous; gaseous; wastewater	gaseous; gaseous; wastewater	gaseous; gaseous; wastewater	gaseous; gaseous; wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	650	1,040	740	740	780
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	130	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	0	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	750	1,170	980	870	950

driley:
produce,
byproduct

driley:
landfill

driley:
scrubber,
incin.;
scrubber;
neut., settling,
other

Diethanolamine

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	P	P
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	2	2	0	0	0
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	NA	NA	NA	NA	NA
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	2	2	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	2	2	0	0	0

driley:
reactant

Diisocyanates

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, P	M, P	M, P	M, P	M, P
Form R element					
5.1 Fugitive or non-point air	140	200	260	160	100
5.2 Stack or point air	51	20	19	18	19
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	3,700; 24,000	10,000; 22,000	9,000; 23,000	7,000; 11,000; 15,000	5,100; 25,000; 550
7.A On-site waste treatment methods	NA	NA	NA	NA	NA
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	190	220	279	180	120
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	3,700	10,000	9,000	7,000	5,100
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	24,000	22,000	23,000	26,000	26,000
Annual Reportable Amount (Σ 8.1-8.7)	27,890	32,220	32,279	33,180	31,220

driley:
produce, onsite
use/processing,
sale/distribution;
formulation
component

driley:
Subt C landfill;
incineration;
incineration

Dioxin & dioxin-like compounds

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	NA	NA	NA	NA	NA
5.2 Stack or point air	0.66	0.64	0.6738089	0.67	0.67
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	0.093	0.09	0.0952751	0.1	0.095
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	gaseous; wastewater; liquid waste	gaseous; wastewater; liquid waste	gaseous; wastewater; liquid waste	gaseous; wastewater; liquid waste	gaseous; wastewater; liquid waste
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	0.093	0.09	0.0952751	0.1	0.095
8.1.b Onsite disp/releases	0.66	0.64	0.6738089	0.67	0.67
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	1	1	1	1	1

driley:
produce,
byproduct

driley:
scrubber;
neutralization,
settling, other;
incineration

Diphenylamine

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	180	130	130	120	130
5.2 Stack or point air	19,000	20,000	20,000	19,000	18,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	3,600	2,700	1,400	1,200	2,400
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	110; 5,900	130; 4,900	240; 240; 1,900	130; 1,400	170; 250; 4,600
7.A On-site waste treatment methods	liquid waste; wastewater; gaseous	liquid waste; wastewater; gaseous	liquid waste; wastewater	liquid waste; wastewater	liquid waste; wastewater
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	3,600	2,700	1,400	1,200	2,400
8.1.b Onsite disp/releases	19,000	20,000	20,130	19,000	18,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	110	130	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	530,000	530,000	570,000	520,000	580,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	5,900	4,900	2,140	1,400	4,900
Annual Reportable Amount (Σ 8.1-8.7)	558,610	557,730	593,910	541,730	605,470

driley:
produce, sale/
distribution

driley:
Subt. C landfill;
incineration;
incineration

driley:
incineration;
neutralization,
air/steam
stripping, other

Ethylene glycol

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	OU	OU	OU	OU	OU
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	3,100	5	5	4	4
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	NA	NA	NA	NA	NA
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	3,100	5	5	4	4
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	3,100	5	5	4	4

driley:
ancillary/other

Ethylene oxide

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	P	P
Form R element					
5.1 Fugitive or non-point air	57	84	20	80	39
5.2 Stack or point air	3	3	3	3	3
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	liquid waste	liquid waste	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	60	87	23	83	42
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	33,000	NA	34,000	34,000	30,000
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	33,060	87	34,023	34,083	30,042

driley:
reactant

driley:
incineration;
incineration

Formaldehyde

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P, OU	P, OU	P, OU	P, OU	P, OU
Form R element					
5.1 Fugitive or non-point air	39	83	33	53	87
5.2 Stack or point air	600	790	720	720	800
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 51	130; 110	240; 18	130; 55	170; 22
7.A On-site waste treatment methods	gaseous	gaseous	gaseous	gaseous	gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	640	870	753	770	890
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	130	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	51	110	18	55	22
Annual Reportable Amount (Σ 8.1-8.7)	791	1,110	1,011	955	1,082

driley:
process,
ancillary/other

driley:
Subt. C
landfill;
incineration

driley:
scrubber

Hydrochloric acid (aerosol)

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, OU	M, OU	M, OU	M, OU	M, P, OU
Form R element					
5.1 Fugitive or non-point air	780	62	3	16	430
5.2 Stack or point air	5,900	10,500	10,000	10,000	11,000
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	34	110	130	150
7.A On-site waste treatment methods	gaseous; gaseous	gaseous; gaseous	gaseous; gaseous	gaseous; gaseous	gaseous; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	6,700	11,000	10,003	10,000	11,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	34	110	130	150
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	6,700	11,034	10,113	10,130	11,150

driley:
produce, onsite
use/processing,
sale/ distribution,
byproduct;
reactant; manf.
aid,
ancillary/other

driley:
Subt. C
landfill

driley:
scrubber;
scrubber,
incineration

Hydrogen fluoride

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, OU	M, OU	M, OU	M, OU	M, OU
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	3,600	4,800	7,700	13,000	18,000
5.3 Discharges to streams/water bodies	0	0	NA	NA	NA
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	liquid waste	liquid waste	liquid waste	liquid waste	liquid waste
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	3,600	4,800	7,700	13,000	18,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	3,600	4,800	7,700	13,000	18,000

driley:
produce,
byproduct;
ancillary/other

driley:
incineration

m-Dinitrobenzene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	liquid waste	liquid waste	liquid waste	liquid waste	liquid waste
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	0	0	0	0	0

driley:
produce,
impurity

driley:
incineration

Maleic anhydride

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	880	870	850	2,600	450
5.2 Stack or point air	2,900	2,600	3,100	2,800	3,200
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 2,300	150; 3,400	240; 3,300	170; 3,700	170; 3,700
7.A On-site waste treatment methods	wastewater; gaseous; gaseous; gaseous; liquid waste	wastewater; gaseous; gaseous; gaseous; liquid waste	wastewater; gaseous; gaseous; gaseous; liquid waste	wastewater; gaseous; gaseous; gaseous; liquid waste	wastewater; gaseous; gaseous; gaseous; liquid waste
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	3,800	3,500	3,950	5,400	3,700
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	150	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	560,000	580,000	610,000	280,000	0
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	2,300	3,400	3,300	2,600	3,700
Annual Reportable Amount (Σ 8.1-8.7)	566,200	587,050	617,490	288,130	7,570

driley:
Produce,
sale/distributio

driley:
Subt. C landfill;
incineration

driley:
neutralization,
other;
incineration,ab
sorber;
incineration,
condenser;
scrubber;
incineration

Methanol

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	P	P
Form R element					
5.1 Fugitive or non-point air	1200	840	900	850	940
5.2 Stack or point air	2,100	2,600	2,300	2,300	2,500
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	770,000	1,100,000	1,300,000	1,200,000	1,300,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	10; 12	NA	13; 8
7.A On-site waste treatment methods	wastewater; gaseous	wastewater; gaseous	wastewater; gaseous	wastewater; gaseous	wastewater; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	770,000	1,100,000	1,300,000	1,200,000	1,300,000
8.1.b Onsite disp/releases	3,300	3,400	3,200	3,200	3,400
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	22	NA	21
Annual Reportable Amount (Σ 8.1-8.7)	773,300	1,103,400	1,303,222	1,203,200	1,303,421

driley:
impurity

driley:
incineration;
incineration

driley:
neutralization,
settling, other;
scrubber

n-Butyl alcohol

Chemical name	2013	2014	2015	2016	2017
Activities & Uses	P	P	M	M	M
Form R element					
5.1 Fugitive or non-point air	10,000	10,100	10,300	10,000	9,000
5.2 Stack or point air	360	200	470	330	110
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	22,000	33,000	30,000	31,000	32,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	22,000	33,000	30,000	31,000	32,000
8.1.b Onsite disp/releases	10,000	10,000	10,770	10,000	9,100
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	32,000	43,000	40,770	41,000	41,100

driley:
produce,
byproduct

driley:
incineration;
neut., other
treatment

Nickel compounds

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	OU	OU	OU	OU	OU
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	2,900	3,300	3,000	3,200	3,400
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	220; 7; 430*	240; 3	380; 4; 500*	390; 5	3,000; 7
7.A On-site waste treatment methods	gaseous	gaseous	gaseous	gaseous	gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	2,900	3,300	3,000	3,200	3,400
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	220	240	380	390	3,000
8.1.d Other offsite disp	7	3	4	5	7
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	430	NA	500	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	3,557	3,543	3,884	3,595	6,407

driley:
manufacturing
aid

driley:
Subt. C landfill;
solidification/stab.

driley:
other air
emission
treatment

* = metals recovery

Nitrate compounds

Chemical name	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	NA	NA	NA	NA	NA
5.2 Stack or point air	NA	NA	NA	NA	NA
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	640,000	540,000	580,000	350,000	850,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	3; 3	NA	3; 2
7.A On-site waste treatment methods	wastewater	wastewater	wastewater	wastewater	wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	640,000	540,000	580,000	350,000	850,000
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	6	NA	5
Annual Reportable Amount (Σ 8.1-8.7)	640,000	540,000	580,006	350,000	850,005

driley:
produce,
byproduct

driley:
incineration;
incineration

driley:
neutralization,
settling, other

Nitric acid

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	P	P
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	NA	NA	NA	NA	NA
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	0	0	0	0	0

driley:
reactant

Nitrobenzene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, P	M, P	M, P	M, P	M, P
Form R element					
5.1 Fugitive or non-point air	3,300	3,700	3,700	3,500	3,600
5.2 Stack or point air	3,600	3,500	2,600	3,700	2,200
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	310,000	180,000	340,000	470,000	440,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 110,000	150; 16	240; 6,800; 8,200	130; 250	170; 8,500; 5,600
7.A On-site waste treatment methods	liquid waste; wastewater; gaseous; wastewater	liquid waste; wastewater; gaseous; wastewater	liquid waste; wastewater; gaseous; wastewater	liquid waste; wastewater; gaseous; wastewater	liquid waste; wastewater; gaseous; wastewater
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	310,000	180,000	340,000	470,000	440,000
8.1.b Onsite disp/releases	6,900	7,200	6,300	7,200	5,800
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	150	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	99,000	95,000	95,000	85,000	110,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	110,000	16	15,000	250	14,000
Annual Reportable Amount (Σ 8.1-8.7)	526,000	282,366	456,540	562,580	569,970

driley:
produce, onsite
use/processing,
sale/distribution;
reactant

driley:
landfill;
incineration;
incineration

driley:
incineration;
other, settling,
neut., other;
condenser,
scrubber,
incin.;
stripping,
other, neut.,
settling, other

o-Toluidine

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	38	44	43	44	43
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	230	65	270	3	0
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	1	1	1	1	1
7.A On-site waste treatment methods	wastewater; liquid waste	wastewater; liquid waste	wastewater; liquid waste	wastewater; liquid waste	wastewater; liquid waste
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	230	65	270	3	0
8.1.b Onsite disp/releases	38	44	43	44	43
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	160,000	150,000	150,000	140,000	180,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	1	1	1	1	1
Annual Reportable Amount (Σ 8.1-8.7)	160,269	150,110	150,314	140,048	180,044

driley:
produce,
byproduct

driley:
incineration

driley:
other, settling,
neut., other;
incineration

Phenol

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	93	110	110	110	110
5.2 Stack or point air	220	190	150	140	130
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	450,000	380,000	370,000	360,000	180,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	7	3	4	5	7
7.A On-site waste treatment methods	wastewater; wastewater; liquid waste; gaseous	wastewater; wastewater; liquid waste; gaseous	wastewater; wastewater; liquid waste	wastewater; wastewater; liquid waste	wastewater; wastewater; liquid waste
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	450,000	380,000	370,000	360,000	180,000
8.1.b Onsite disp/releases	310	300	260	250	240
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	86,000	83,000	83,000	75,000	96,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	7	3	4	5	7
Annual Reportable Amount (Σ 8.1-8.7)	536,317	463,303	453,264	435,255	276,247

driley:
produce,
byproduct,
impurity

driley:
incineration

driley:
other, settling,
neut., other;
stripping,
other, neut.,
settling, other;
incineration

Phosgene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, P	M, P	M, P	M, P	M, P
Form R element					
5.1 Fugitive or non-point air	200	360	240	280	240
5.2 Stack or point air	5	5	5	5	3
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	gaseous; gaseous	gaseous; gaseous	gaseous; gaseous	gaseous; gaseous	gaseous; gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	210	370	245	290	240
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	210	370	245	290	240

driley:
produce, onsite
use/processing;
reactant

driley:
landfill;
incineration;
incineration

driley:
scrubber;
scrubber,
incineration

Picric acid

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	wastewater	wastewater	wastewater	wastewater	wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	0	0	0	0	0

driley:
produce,
byproduct

driley:
stripping,
other, neut.,
settling,
other

Propylene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	not reported	not reported	M	M	M
Form R element					
5.1 Fugitive or non-point air			1	3	5
5.2 Stack or point air			31,000	23,000	23,000
5.3 Discharges to streams/water bodies			0	0	0
5.4.1 Underground injection onsite			NA	NA	NA
5.5.4 Other disposal			NA	NA	NA
6.1 POTW			0	0	0
6.2 Transfers to offsite locations			NA	NA	NA
7.A On-site waste treatment methods			gaseous	gaseous	gaseous
7.B On-site energy recovery processes			NA	NA	NA
7.C On-site recycling processes			NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.			NA	NA	NA
8.1.b Onsite disp/releases			31,001	23,000	23,000
8.1.c Offsite disp - UI wells, RCRA landfills, etc.			NA	NA	NA
8.1.d Other offsite disp			NA	NA	NA
8.2 Energy recovery onsite			NA	NA	NA
8.3 Energy recovery offsite			NA	NA	NA
8.4 Recycled onsite			NA	NA	NA
8.5 Recycled offsite			NA	NA	NA
8.6 Treated onsite			NA	NA	NA
8.7 Treated offsite			NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)			31,001	23,000	23,000

driley:
produce,
impurity

driley:
scrubber

Propylene oxide

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	P	P	P	P	P
Form R element					
5.1 Fugitive or non-point air	150	140	55	110	93
5.2 Stack or point air	32	30	30	28	28
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	liquid waste	liquid waste	gaseous; wastewater	gaseous; wastewater	gaseous; wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	180	170	85	140	120
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	320,000	300,000	300,000	280,000	280,000
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	320,180	300,170	300,085	280,140	280,120

driley:
reactant

driley:
incineration;
incineration

Quinoline

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M	M	M	M	M
Form R element					
5.1 Fugitive or non-point air	0	0	0	0	0
5.2 Stack or point air	120	170	150	145	570
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	3	230	68	4	62
7.A On-site waste treatment methods	gaseous; liquid waste	gaseous; liquid waste	liquid waste	liquid waste	liquid waste
7.B On-site energy recovery processes	boiler	boiler	boiler	boiler	boiler
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	120	170	150	150	570
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	160,000	160,000	170,000	160,000	170,000
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	3	230	68	4	62
Annual Reportable Amount (Σ 8.1-8.7)	160,123	160,400	170,218	160,154	170,632

driley:
produce,
byproduct

driley:
incineration

driley:
incineration

Sodium nitrite

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	M, OU	M, OU	M, OU	M, OU	M, OU
Form R element					
5.1 Fugitive or non-point air	NA	NA	NA	NA	NA
5.2 Stack or point air	NA	NA	NA	NA	NA
5.3 Discharges to streams/water bodies	0	0	0	0	0
5.4.1 Underground injection onsite	1,500,000	1,700,000	1,500,000	1,700,000	1,600,000
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	14	NA	7; 9	NA	9; 6
7.A On-site waste treatment methods	wastewater	wastewater	wastewater	wastewater	wastewater
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	1,500,000	1,700,000	1,500,000	1,700,000	1,600,000
8.1.b Onsite disp/releases	0	0	0	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	14	NA	16	NA	15
Annual Reportable Amount (Σ 8.1-8.7)	1,500,014	1,700,000	1,500,016	1,700,000	1,600,015

driley:
produce,
byproduct;
manf.aid,
ancillary/other

driley:
incineration;
incineration

driley:
other, settling,
neut., other

Sulfuric acid (aerosol)

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	OU	OU	OU	OU	OU
Form R element					
5.1 Fugitive or non-point air	22	89	53	0	0
5.2 Stack or point air	0	0	0	0	0
5.3 Discharges to streams/water bodies	NA	NA	NA	NA	NA
5.4.1 Underground injection onsite	NA	NA	NA	NA	NA
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	NA	NA	NA	NA	NA
7.A On-site waste treatment methods	NA	NA	NA	NA	NA
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.b Onsite disp/releases	22	89	53	0	0
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	NA	NA	NA	NA	NA
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	NA	NA	NA	NA	NA
Annual Reportable Amount (Σ 8.1-8.7)	22	89	53	0	0

driley:
chemical
processing aid,
manufacturing
aid

Toluene

Reporting Year	2013	2014	2015	2016	2017
Activities & Uses	OU	OU	OU	OU	OU
Form R element					
5.1 Fugitive or non-point air	300	300	0	21	21
5.2 Stack or point air	18	19	890	410	400
5.3 Discharges to streams/water bodies	NA	NA	NA	NA	NA
5.4.1 Underground injection onsite	250	78	73	200	310
5.5.4 Other disposal	NA	NA	NA	NA	NA
6.1 POTW	0	0	0	0	0
6.2 Transfers to offsite locations	100; 340	140; 35	240; 18	130; 3,300	170; 27
7.A On-site waste treatment methods	NA	NA	gaseous	gaseous	gaseous
7.B On-site energy recovery processes	NA	NA	NA	NA	NA
7.C On-site recycling processes	NA	NA	NA	NA	NA
Source Reduction & Recycling Activities					
8.1.a Onsite disp - UI wells, RCRA landfills, etc.	250	78	73	200	310
8.1.b Onsite disp/releases	320	320	890	430	420
8.1.c Offsite disp - UI wells, RCRA landfills, etc.	100	140	240	130	170
8.1.d Other offsite disp	NA	NA	NA	NA	NA
8.2 Energy recovery onsite	NA	NA	NA	NA	NA
8.3 Energy recovery offsite	NA	NA	NA	NA	NA
8.4 Recycled onsite	NA	NA	NA	NA	NA
8.5 Recycled offsite	NA	NA	NA	NA	NA
8.6 Treated onsite	NA	NA	NA	NA	NA
8.7 Treated offsite	340	35	18	3,300	27
Annual Reportable Amount (Σ 8.1-8.7)	1,010	573	1,221	4,060	927

driley:
ancillary/other

driley:
landfill;
incineration

driley:
scrubber

Appendix 7
Air Emissions Data
2017

AIR 2017

ERIC ID	EQ ID	Description	Basis	PM-10	PM2.5	SULFUR OXIDES (SOX)
RUB290	Tank Cleaning	Variances	Emission Source GZ additional hours	42.256 84,512.55	42.134 84,268.55	2.317 4,633.21

VOC
TRI
Air Toxic

ERIC ID	EQ ID	Description	Basis	PM-10	PM2.5	SULFUR OXIDES (SOX)
fugitives	TRI 5.1(lbs)	fugitives		10996	10752	0
non-fugitives	TRI 5.2(lbs)	non-fugitives		73,516.55	73,516.55	4,633.21
	check					

AMMONIA	ANILINE	ANTIMONY (AND COMPOUNDS) [1]	ARSENIC	BARIUM	BENZENE	BERYLLIUM (AND COMPOUNDS)[1]	BORON TRIFLUORIDE	1-BUTANOL	CADMIUM	CARBON TETRACHLORIDE
	0.0011				0.0386					
8.163	9.039	0.020	0.003	0.015	7.216	0.004	0.002	4.568	0.005	15.269
16,325.06	18,078.28	39.34	6.76	30.74	14,432.55	8.61	3.00	9,135.37	9.54	30,537.84
	9.039				7.216			4.568		15.269
8.163	9.039	0.020	0.003	0.015	7.216	0.004		4.568	0.005	15.269
	9.039	0.020	0.003	0.015	7.216	0.004			0.005	15.269
8.163								4.568		

X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X
7664417	62533	7440360	7440382	7440393	71432	7440417	7637072	71363	7440439	56235
AMMONIA	ANILINE	ANTIMONY (AND COMPOUNDS) [1]	ARSENIC	BARIUM	BENZENE	BERYLLIUM (AND COMPOUNDS)[1]	BORON TRIFLUORIDE	1-BUTANOL	CADMIUM	CARBON TETRACHLORIDE
2103	4826	0	0	0	1522	0	3	9024	0	947
14,221.57	13,252.46	39.34	6.76	30.74	12,910.81	8.61	-	111.23	9.54	29,590.47

CHLORINATED DIBENZO FURANS [3]	CHLORINATED DIBENZO-p- DIOXINS	CHLORINE	CHLOROBENZENE	CHLOROFORM	CHROMIUM	CUMENE	CYCLOHEXANE	DIAMINOTOLUE NE	DIBUTYL PHTHALATE	DICHLORO METHANE
0.000	0.000	0.246	0.2092							
0.00	0.00	492.54	94.518	0.362	0.011	0.000	2.433	0.000	0.373	0.388
			189,035.63	723.99	22.28	0.00	4,865.44	0.00	746.03	775.21
0.000	0.000		94.518	0.362		0.000		0.000	0.373	0.388
							2.433			
0.000	0.000	0.246	94.518	0.362	0.011	0.000		0.000	0.373	0.388
					0.011					
0.000	0.000	0.246	94.518	0.362		0.000		0.000	0.373	0.388

x	x		x	x		x	x	x	x	x
x	x	x	x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x	x	x	x
51207319	3268879	7782505	108907	67663	7440473	98828	110827	25376458	84742	75092
CHLORIN ATED DIBENZO FURANS [3]	CHLORI NATED DIBENZ O-p- DIOXIN S	CHLORI NE	CHLOROB ENZENE	CHLOR OFORM	CHRO MIUM	CUME NE	CYCLOHE XANE	DIAMI NOTO LUEN E	DIBUTY L PHTHAL ATE	DICHL O RO METHA NE
0	0	2	12909	100	0	0	409	0	254	220
0.00	0.00	490.19	176,126.85	623.99	22.28	-	4,456.40	-	492.02	555.61

DIETHANOLAMINE	DIPHENYLAMINE	ETHYLBENZENE	ETHYLENE GLYCOL	ETHYLENE OXIDE	FORMALDEHYDE	HEXANE	HYDROCHLORIC ACID	HYDROGEN FLUORIDE	ISO-PROPYL ALCOHOL	LEAD COMPOUNDS
	0.0000									
0.000	8.961	0.051	0.002	0.021	0.445	0.011	5.686	9.140	0.034	0.007
0.05	17,922.34	101.39	4.09	42.06	889.64	22.34	11,371.55	18,279.00	67.20	13.25
0.000		0.051	0.002	0.021	0.445	0.011				
	8.961								0.034	
0.000		0.051	0.002	0.021	0.445	0.011	5.686	9.140		0.007
		0.051		0.021	0.445					
0.000			0.002			0.011	5.686	9.140		0.007

X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X
111422	122394	100414	107211	75218	50000	110543	7647010	7664393	67630	7439921
DIETHANOLAMINE	DIPHENYLAMINE	ETHYLBENZENE	ETHYLENE GLYCOL	ETHYLENE OXIDE	FORMALDEHYDE	HEXANE	HYDROCHLORIC ACID	HYDROGEN FLUORIDE	ISO-PROPYL ALCOHOL	LEAD COMPOUNDS
0	134	100	0	39	87	1	434	0	46	0
0.05	17,788.79	1.38	4.09	3.05	803.11	21.55	10,937.83	18,279.00	21.60	13.25

MALEIC ANHYDRIDE	MERCURY (AND COMPOUNDS) [1]	METHYL ALCOHOL	METHYL ETHYL KETONE	METHYL T-BUTYL ETHER	METHYLENE DIPHENYL DIISOCYANATE	Methylisobutyl ketone	NICKEL (AND COMPOUNDS) [1]	NITRIC ACID	NITROBENZENE	N-nitrosodiphenylamine
1.845	0.004	0.0086							0.0076	
3,690.53	7.85	1.738	0.129	0.058	0.060	0.193	1.686	0.000	2.915	0.001
		3,476.87	257.60	116.36	120.39	386.69	3,372.64	0.00	5,829.82	1.87
1.845		1.738	0.129	0.058	0.060	0.193			2.915	
1.845	0.004	1.738	0.129	0.058	0.060	0.193	1.686	0.000	2.915	0.001
		1.738	0.129	0.058	0.060	0.193	1.686		2.915	

X		X	X	X	X	X			X	
X	X	X		X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	
108316	7439976	67561	78933	1634044	101688	108101	7440020	7697372	98953	86306
MALEIC ANHYDRIDE	MERCURY (AND COMPOUNDS) [1]	METHYL ALCOHOL	METHYL ETHYL KETONE	METHYL T-BUTYL ETHER	METHYLENE DIPHENYL DIISOCYANATE	Methylisobutyl ketone	NICKEL (AND COMPOUNDS) [1]	NITRIC ACID	NITROBENZENE	N-nitrosodiphenylamine
451	0	940	258	0	101	387	0	0	3608	2
3,239.30	7.85	2,537.16	-	116.36	18.95	-	3,372.64	-	2,222.10	-

O-TOLUIDINE	PHENOL	PHOSGENE	PROPYLENE	PROPYLENE OXIDE	QUINOLINE	Silver	Sulfuric Acid	Thallium	TOLUENE	TRICHLORO- ETHANE	TRIMETHYLBEN- ZENE	TOTAL XYLENES
	0.0000											
0.021	0.120	0.120	11.422	0.060	0.284	0.005	0.000	0.007	0.210	0.005	0.452	0.131
42.84	240.66	240.45	22,843.71	120.42	567.54	9.03	0.00	14.82	419.28	10.80	904.78	262.45
0.021	0.120	0.120		0.060	0.284				0.210	0.005		0.131
											0.452	
0.021	0.120	0.120		0.060	0.284		0.000		0.210	0.005		0.131
				0.060								
0.021	0.120	0.120			0.284		0.000		0.210	0.005		0.131

X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X
95534	108952	75445	115071	75569	91225	7440224	7664939	7440280	108883	71556	95636	1330207
O-TOLUIDINE	PHENOL	PHOSGENE	PROPYLENE	PROPYLENE YLENE OXIDE	QUINOLINE	Silver	Sulfuric Acid	Thallium	TOLUENE	TRICHLORO- ETHANE	TRIMETHYLBEN- ZENE	TOTAL XYLENES
0	108	237	5	93	0	0	0	0	21	0	905	259
42.84	132.30	3.22	22,838.86	27.70	567.54	9.03	-	14.82	398.04	10.80	0.28	3.01

Appendix 8
Surface Water Data
2017

2017 LPDES Chlorine discharge based on measured flow to the Mississippi River multiplied by the chlorine (TRC) detection limit.

2017 Flow (lbs)	2,633,742,723
TRC Detection Limit (mg/L)	0.05
Chlorine discharged (lbs)	132

Appendix 9
Underground Injection Well Data
2017

Wells

MONTHLY REPORT DATA													
	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	TOTAL
	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	YTD
Benzene	332.84	156.25	271.38	165.34	176.41	151.41	21.73	227.52	770.16	369.52	114.46	217.54	2,974.55
Toluene	4.12	7.24	153.03	18.37	0.00	0.00	48.62	0.00	3.57	19.39	8.09	49.24	311.67
MCB	13380.49	7188.89	10332.75	6408.37	18499.67	13057.28	23519.13	19542.41	23322.16	26895.07	16895.32	10088.15	189,129.69
Aniline	205483.51	152722.98	204700.25	135721.98	202949.45	217854.62	265551.81	189431.75	157745.51	261742.80	74,480.23	71724.41	2,140,109.29
ODCB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.26	0.00	0.00	10.26
Toluidine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NB	59836.60	20188.75	16688.70	91652.29	20959.62	23296.33	19006.49	40674.89	57194.75	41361.07	21848.41	24271.89	436,979.78
MNT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	124.31	0.00	0.00	124.31
DNT	25.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.76
DPA	284.41	226.84	303.00	71.44	108.79	97.69	138.63	202.82	308.42	282.84	267.08	102.05	2,394.01
DADPM	5520.16	5722.28	10397.02	6359.38	9747.71	20748.37	14088.30	21050.57	20160.43	33521.33	7675.91	5144.79	160,136.24
Phenol	18079.37	9742.65	12944.50	15456.03	16323.93	11422.67	15025.59	10934.18	13090.86	20630.35	22036.87	16975.02	182,662.03
2,4DNP	173260.07	65360.05	158750.73	189925.24	149467.42	167698.08	172579.14	151453.35	127724.60	145149.21	151139.87	157938.73	1,810,446
FLOW	48,128.951	34,909.457	47,139.913	47,203.315	57,045.403	56,748.412	60,391.929	60,248.166	51,434.334	53,055.124	53,217.351	51,905.032	621,427,387
Subtotal	425994.17	282494.10	371282.16	369237.22	382679.26	411035.55	443996.77	393028.53	398231.93	506098.81	258140.09	222688.54	4,464,907
AMMONIA	935037.03	774875.43	707519.89	333839.61	891759.18	499986.21	574581.01	493923.32	337210.47	344656.54	595897.34	740251.06	7,229,537
NITRATES	22957.56	19583.04	25797.19	21508.21	23098.12	78258.99	128842.33	180316.47	88265.71	79271.00	131823.50	53051.18	850,773.29
SODIUM													
NITRITES	109130.59	52788.54	130822.32	167228.03	127716.89	159866.97	251736.62	154113.44	126974.94	87097.06	111374.07	91189.91	1,570,039.36
Methanol	121023.10	85057.12	113018.52	110227.29	110553.05	123005.40	105312.61	103553.58	117293.62	109714.14	104954.93	94115.46	1,297,828.82
DBP	789.33	377.66	642.74	428.65	379.28	267.01	104.49	55.91	3249.09	7060.78	7675.91	735.86	21,766.72
ACRYLIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BUTANOL	1234.49	1103.43	1830.27	2728.07	2981.35	1134.78	1179.37	7354.89	5093.37	4366.94	2182.88	1034.51	32,224.35
Total	651586.027	432353.219	598653.6485	591357.416	622670.186	699160.1313	880033.817	776,850.77	647,193.63	706,932.52	560,927.39	440954.7302	7,608,673.49

AVG
YTD
247.8795195
25.97264341
15760.80748
178342.4411
0.855368636
0
36414.98194
0
10.35946459
2.146786219
199.5006687
13344.68675
15221.83608
150870.5415
372075.594
602461.4238
70897.77444
130836.6133
108152.4017
634,056.12

Appendix 10

Basis of Calculations

TRI Calculation Summary

Chemical	Media	Calculation Basis
1,4 DICHLOROBENZENE	Water	Mass Flow x Concentration
1,4 DICHLOROBENZENE	Air	Emission Factors
1,4 DICHLOROBENZENE	Waste	Analysis x Volume
2,4 DINITROPHENOL	Waste	Analysis x Volume
2-METHYLPYRIDINE	Air	Stack test based
4,4-METHYLENE DIANILINE	Water	Mass Flow x Concentration
4,4-METHYLENE DIANILINE	Air	Emission Factors
4,4-METHYLENE DIANILINE	Air	Stack test based
4,4-METHYLENE DIANILINE	Waste	Analysis x Volume
ACRYLIC ACID	Air	Emission Factors
ACRYLIC ACID	Air	Stack test based
AMMONIA	Water	Mass Flow x Concentration
AMMONIA	Air	Fugitive emission monitoring
AMMONIA	Air	Emission Factors
AMMONIA	Air	Stack test based
AMMONIA	Air	Process knowledge and engineering judgement
AMMONIA	Waste	Analysis x Volume
ANILINE	Water	Mass Flow x Concentration
ANILINE	Air	Fugitive emission monitoring
ANILINE	Air	Emission Factors
ANILINE	Air	Stack test based
ANILINE	Air	Process knowledge and engineering judgement
ANILINE	Waste	Analysis x Volume
BENZENE	Water	Mass Flow x Concentration
BENZENE	Air	Fugitive emission monitoring
BENZENE	Air	Emission Factors
BENZENE	Air	Stack test based
BENZENE	Air	Process knowledge and engineering judgement
BENZENE	Waste	Analysis x Volume
BORON TRIFLUORIDE	Air	Process knowledge and engineering judgement
BUTANOL	Water	Mass Flow x Concentration
BUTANOL	Air	Stack test based
BUTANOL	Air	Emission Factors
BUTANOL	Air	Process knowledge and engineering judgement
CARBON TETRACHLORIDE	Air	Emission Factors
CARBON TETRACHLORIDE	Air	Stack test based
CARBON TETRACHLORIDE	Air	Process knowledge and engineering judgement
CARBON TETRACHLORIDE	Waste	Analysis x Volume
CHLORINE	Water	Mass Flow x Concentration
CHLORINE	Air	Stack test based
CHLORINE	Air	Process knowledge and engineering judgement
CHLOROBENZENE	Water	Mass Flow x Concentration
CHLOROBENZENE	Air	Fugitive emission monitoring
CHLOROBENZENE	Air	Emission Factors
CHLOROBENZENE	Air	Stack test based
CHLOROBENZENE	Air	Process knowledge and engineering judgement
CHLOROBENZENE	Waste	Analysis x Volume
DIBUTYL PHTHALATE	Water	Mass Flow x Concentration
DIBUTYL PHTHALATE	Air	Emission Factors
DIBUTYL PHTHALATE	Air	Stack test based
DIBUTYL PHTHALATE	Air	Process knowledge and engineering judgement
DIBUTYL PHTHALATE	Waste	Analysis x Volume
DICHLOROMETHANE	Air	Emission Factors
DICHLOROMETHANE	Air	Stack test based
DICHLOROMETHANE	Air	Process knowledge and engineering judgement
DICHLOROMETHANE	Waste	Analysis x Volume
DIETHANOLAMINE	Air	Emission Factors
DIOXINS AND FURANS	Water	Stack test based
DIOXINS AND FURANS	Air	Stack test based
DIPHENYLAMINE	Water	Mass Flow x Concentration
DIPHENYLAMINE	Air	Fugitive emission monitoring
DIPHENYLAMINE	Air	Emission Factors
DIPHENYLAMINE	Air	Stack test based
DIPHENYLAMINE	Air	Process knowledge and engineering judgement
DIPHENYLAMINE	Waste	Analysis x Volume
ETHYLENE GLYCOL	Air	Emission Factors
ETHYLENE OXIDE	Air	Fugitive emission monitoring
ETHYLENE OXIDE	Air	Stack test based
ETHYLENE OXIDE	Air	Process knowledge and engineering judgement
FORMALDEHYDE	Air	Fugitive emission monitoring
FORMALDEHYDE	Air	Emission Factors
FORMALDEHYDE	Air	Stack test based
FORMALDEHYDE	Air	Process knowledge and engineering judgement
FORMALDEHYDE	Waste	Analysis x Volume

Chemical	Media	Calculation Basis
HYDROGEN CHLORIDE	Air	Stack test based
HYDROGEN CHLORIDE	Air	Process knowledge and engineering judgement
HYDROGEN CHLORIDE	Waste	Analysis x Volume
HYDROGEN FLUORIDE	Air	Process knowledge and engineering judgement
MALEIC ANHYDRIDE	Air	Emission Factors
MALEIC ANHYDRIDE	Air	Stack test based
MALEIC ANHYDRIDE	Air	Process knowledge and engineering judgement
MALEIC ANHYDRIDE	Waste	Analysis x Volume
METHANOL	Water	Mass Flow x Concentration
METHANOL	Air	Fugitive emission monitoring
METHANOL	Air	Emission Factors
METHANOL	Air	Stack test based
METHANOL	Air	Process knowledge and engineering judgement
METHANOL	Waste	Analysis x Volume
METHYLENE DIPHENYL DIISOCYANATE	Air	Fugitive emission monitoring
METHYLENE DIPHENYL DIISOCYANATE	Air	Emission Factors
METHYLENE DIPHENYL DIISOCYANATE	Air	Stack test based
METHYLENE DIPHENYL DIISOCYANATE	Air	Process knowledge and engineering judgement
METHYLENE DIPHENYL DIISOCYANATE	Waste	Analysis x Volume
NICKEL	Air	Stack test based
NICKEL	Waste	Analysis x Volume
NITRATES	Water	Mass Flow x Concentration
NITROBENZENE	Water	Mass Flow x Concentration
NITROBENZENE	Air	Fugitive emission monitoring
NITROBENZENE	Air	Emission Factors
NITROBENZENE	Air	Stack test based
NITROBENZENE	Air	Process knowledge and engineering judgement
NITROBENZENE	Waste	Analysis x Volume
O-TOLUIDINE	Air	Emission Factors
O-TOLUIDINE	Air	Stack test based
O-TOLUIDINE	Air	Process knowledge and engineering judgement
O-TOLUIDINE	Waste	Analysis x Volume
PHENOL	Water	Mass Flow x Concentration
PHENOL	Air	Emission Factors
PHENOL	Air	Stack test based
PHENOL	Air	Process knowledge and engineering judgement
PHENOL	Waste	Analysis x Volume
PHOSGENE	Air	Fugitive emission monitoring
PHOSGENE	Air	Stack test based
PHOSGENE	Air	Process knowledge and engineering judgement
PROPYLENE	Air	Fugitive emission monitoring
PROPYLENE	Air	Stack test based
PROPYLENE OXIDE	Air	Fugitive emission monitoring
PROPYLENE OXIDE	Air	Stack test based
PROPYLENE OXIDE	Air	Process knowledge and engineering judgement
QUINOLINE	Air	Stack test based
QUINOLINE	Waste	Analysis x Volume
SODIUM NITRITE	Water	Mass Flow x Concentration
TOLUENE	Water	Mass Flow x Concentration
TOLUENE	Air	Fugitive emission monitoring
TOLUENE	Air	Emission Factors
TOLUENE	Air	Stack test based
TOLUENE	Air	Process knowledge and engineering judgement
TOLUENE	Waste	Analysis x Volume

Appendix 11

Emails

Riley, David

From: Phillip A Kerr <phillip_a_kerr@huntsman.com>
Sent: Monday, October 01, 2018 1:39 PM
To: Riley, David
Subject: Re: [EXTERNAL] additional TRI questions
Attachments: TRI Questions Received from EPA September 25 2018 and Rubicon Responses.pdf

David,

Good afternoon, see the attached file with responses to your questions.

Thanks.

Regards,

Phil Kerr, PE
Environmental Dept.
Air Permits and Compliance
Rubicon LLC
225-242-5027 Office
225-673-2470 Fax



From: "Riley, David" <riley.david@epa.gov>
To: "phillip_a_kerr@huntsman.com" <phillip_a_kerr@huntsman.com>,
Date: 09/25/2018 10:51 AM
Subject: [EXTERNAL] additional TRI questions

Hello Phil –

Here are some additional questions based on the information you provided:

1. Rubicon's annual list of reported chemicals is fairly consistent, with the exceptions listed below. Please explain why these chemicals were not reported for each of the specified years.

- 1,4-dichlorobenzene was not reported for 2014
- Propylene was not reported for 2013, 2014

2. Regarding boron trifluoride:

- How is it otherwise used – as a chemical processing aid, a manufacturing aid, or ancillary or other use?

- Is it directly reused in your process, or is some other activity performed on it?

3. Rainwater, cooling tower blowdown, and sanitary effluent are all directed into the Weak Effluent impoundment. After neutralization and mixing, the water is discharged to the Mississippi River. Chlorine is the only chemical that shows a corresponding release in Section 5.3 of the Form R. Is the chlorine in the surface water discharge coming from a process, or is it used to treat the water prior to discharge?

4. Please clarify the inclusion of the on-site waste treatment method “incineration – thermal destruction other than use as fuel” on the Form R reports. For example, Form Rs for 1,4-dichlorobenzene and acrylic acid show this method for the on-site treatment of liquid or gaseous waste streams containing these chemicals. Fairly high efficiencies for this treatment method are shown in regards to the destruction of the chemicals, yet no corresponding amounts of the chemicals are shown in Section 8.6 as treated on-site. Are the amounts represented elsewhere on the Form R?

(In contrast, Form Rs for ethylene oxide and propylene oxide show the same method for the on-site treatment of gaseous/wastewater/liquid waste containing these chemicals. High efficiencies are shown, and corresponding amounts of the chemicals treated are shown in Section 8.6. [aside from ethylene oxide for 2014])

5. The reports for 2-nitrophenol and 4-nitrophenol list stripping/other/neutralization/settling/other as a treatment sequence for wastewater containing these chemicals. The treatment efficiency is estimated to be 0 – 50%, and no releases or treated amounts are indicated on the reports. What happens to these chemicals during/after the treatment of this waste stream?

6. How many boilers are present at your facility, and what are their locations?

Thanks for looking into these, and I may have some follow-up questions.

David Riley
EPCRA 313 Enforcement Officer
US EPA Region 6 (EN-H3)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

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TRI Questions Received from EPA September 25, 2018 and Rubicon Response

1. Rubicon's annual list of reported chemicals is fairly consistent, with the exceptions listed below. Please explain why these chemicals were not reported for each of the specified years.

- 1,4-dichlorobenzene was not reported for 2014

Response: 1,4 Dichlorobenzene is variable from year to year. The amount in 2014 was well below reporting thresholds.

- Propylene was not reported for 2013, 2014

Response: Propylene was discovered in a performance test conducted in 2015. It was reported based on the results of the performance test for reporting year 2015 and subsequent years.

2. Regarding boron trifluoride:

- How is it otherwise used – as a chemical processing aid, a manufacturing aid, or ancillary or other use?

Response: Boron trifluoride is used as a chemical processing aid.

- Is it directly reused in your process, or is some other activity performed on it?

Response: Boron trifluoride is used in the process.

3. Rainwater, cooling tower blowdown, and sanitary effluent are all directed into the Weak Effluent impoundment. After neutralization and mixing, the water is discharged to the Mississippi River. Chlorine is the only chemical that shows a corresponding release in Section 5.3 of the Form R. Is the chlorine in the surface water discharge coming from a process, or is it used to treat the water prior to discharge?

Response: The chlorine is residual chlorine from disinfection (treating) of water/wastewater.

4. Please clarify the inclusion of the on-site waste treatment method "incineration – thermal destruction other than use as fuel" on the Form R reports. For example, Form Rs for 1,4-dichlorobenzene and acrylic acid show this method for the on-site treatment of liquid or gaseous waste streams containing these chemicals. Fairly high efficiencies for this treatment method are shown in regards to the destruction of the chemicals, yet no corresponding amounts of the chemicals are shown in Section 8.6 as treated on-site. Are the amounts represented elsewhere on the Form R? (In contrast, Form Rs for ethylene oxide and propylene oxide show the same method for the on-site treatment of gaseous/wastewater/liquid waste containing these chemicals. High efficiencies are shown, and corresponding amounts of the chemicals treated are shown in Section 8.6. [aside from ethylene oxide for 2014])

Response: The amounts are covered in Sections 5.2. and 8.1.

5. The reports for 2-nitrophenol and 4-nitrophenol list stripping/other/neutralization/settling/other as a treatment sequence for wastewater containing these chemicals. The treatment efficiency is estimated to be 0 – 50%, and no releases or treated amounts are indicated on the reports. What happens to these chemicals during/after the treatment of this waste stream?

Response: These compounds undergo chemical conversion to organic salts within the process.

Riley, David

From: Phillip A Kerr <phillip_a_kerr@huntsman.com>
Sent: Thursday, October 11, 2018 7:20 AM
To: Riley, David
Subject: Question Responses Part 2
Attachments: TRI Questions Received from EPA October 3 2018 and Rubicon Responses.pdf

David,

Attached are the responses to the questions you asked last week. Thanks.

Regards,

Phil Kerr, PE
Environmental Dept.
Air Permits and Compliance
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TRI Questions Received from EPA October 3, 2018 and Rubicon Response

1. Specify quantities of acrylic acid, 2-nitrophenol, 4-nitrophenol, 2-4 nitrophenol and picric acid generated.

Response: For 2017, the following quantities were estimated for the compounds requested:

- *acrylic acid - ~1.4 million lb*
- *2-nitrophenol - ~145,000 lb*
- *4-nitrophenol - ~22,000 lb*
- *2-4 nitrophenol - ~ 1.8 million lb*
- *picric acid - ~380,000 lb*

2. Specify the salts that 2-nitrophenol, 4-nitrophenol, 2-4 nitrophenol and picric acid are converted to.

Response:

2-nitrophenol and 4-nitrophenol form nitrophenolate $C_6H_4(NO_2)Na$

2,4 dinitrophenol forms dinitrophenolate $C_6H_3(NO_2)_2ONa$

Picric acid forms sodium picrate $C_6H_2(NO_2)_3ONa$

Note: None of the salts noted above are TRI chemicals.

3. Verify 1,4 dichlorobenzene treatment values for the site boiler.

Response: The treatment values of 1,4 dichlorobenzene for the site boilers/incinerators are estimated to be negligible. The chemical is removed from the process and shipped off site upstream of the boiler, as noted on the Form R.

6. How many boilers are present at your facility, and what are their locations?

Response: There are five boilers on site at the following locations:

- *Aniline-2*
- *DPA-1*
- *DPA-2*
- *Maleic Anhydride (2)*