

National Pollutant Release Inventory (NPRI) and



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Report Preview

Report Details

Report Year	2015
Report Type:	NPRI,ON MOE TRA
Report Status:	Submitted
Modified Date/Time:	30/05/2016 5:12 PM

Company and Facility Details

Company Name:	GreenField Specialty Alcohols Inc.
Business Number:	130336852
Mailing Address:	Address Line 1: 98 Walker Drive City, Province/Territory, Postal Code: Brampton Ontario L6T 4H6 Country: Canada
Facility Name:	Chatham Plant
NAICS Code:	325190
NPRI ID:	5739
Physical Address:	Address Line 1: 275 Bloomfield Road City, Province/Territory, Postal Code: Chatham Ontario N7M5J5 Country: Canada Latitude: 42.38390 Longitude: -82.22180 UTM Zone: 17 UTM Easting: 393453 UTM Northing: 4693216

Permits

Number or Permit Number:	9242-7MGJNK
Government Department, Agency, or Program Name:	Ontario Industrial Sewage Works C of A.
Number or Permit Number:	1031-79EJGF
Government Department, Agency, or Program Name:	Ontario Air/Noise permit
Number or Permit Number:	ON1524202
Government Department, Agency, or Program Name:	Ontario MOE - Hazardous Waste Generator Number

Contacts Details

Contact Type	Technical Contact, Certifying Official, Person who prepared the report, Person who coordinated the preparation of the Toxics Reduction Plan
Name:	Dianne Schenk
Position:	EH&S Coordinator

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City, Province/Territory, Postal Code: Tiverton Ontario N0G 2T0
Country: Canada

Contact Type: Highest Ranking Employee

Name: Angelo Ligori

Position: Plant Manager - Chatham

Telephone: 5194361130

Fax: 5194361595

Email: a.ligori@greenfieldethanol.com

Mailing Address: Address Line 1: 275 Bloomfield Road
City, Province/Territory, Postal Code: Chatham Ontario N7M5J5
Country: Canada

General Information

Number of employees: 70

Activities for Which the 20,000-Hour Employee Threshold Does Not Apply: None of the above

Activities Relevant to Reporting Dioxins, Furans and Hexachlorobenzene: None of the above

Activities Relevant to Reporting of Polycyclic Aromatic Hydrocarbons (PAHs): Wood preservation using creosote: No

Is this the first time the facility is reporting to the NPRI (under current or past ownership): No

Is the facility controlled by another Canadian company or companies: No

Did the facility report under other environmental regulations or permits: No

Is the facility required to report one or more NPRI Part 4 substances (Criteria Air Contaminants): Yes

Was the facility shut down for more than one week during the year: No

Operating Schedule - Days of the Week: Mon, Tue, Wed, Thu, Fri, Sat, Sun

Usual Number of Operating Hours per day: 24

Usual Daily Start Time (24h) (hh:mm): 07:00

Substance List

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
75-07-0	Acetaldehyde	5.9020	N/A	N/A	N/A	tonnes
NA - 16	Ammonia (total)	3.3330	N/A	N/A	N/A	tonnes
71-43-2	Benzene	0.8560	N/A	N/A	N/A	tonnes
630-08-0	Carbon monoxide	299.0080	N/A	N/A	N/A	tonnes
98-82-8	Cumene	N/A	N/A	N/A	N/A	tonnes
110-82-7	Cyclohexane	0.0250	N/A	N/A	N/A	tonnes
100-41-4	Ethylbenzene	0.3930	N/A	N/A	N/A	tonnes
67-56-1	Methanol	1.7390	N/A	N/A	N/A	tonnes
110-54-3	n-Hexane	0.5340	N/A	N/A	N/A	tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	175.9340	N/A	N/A	N/A	tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	40.8950	N/A	N/A	N/A	tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	8.2520	N/A	N/A	N/A	tonnes

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
7664-93-9	Sulphuric acid	N/A	N/A	N/A	N/A	tonnes
108-88-3	Toluene	0.4780	N/A	N/A	N/A	tonnes
NA - M08	Total Particulate Matter	118.7570	N/A	N/A	N/A	tonnes
NA - M16	Volatile Organic Compounds (VOCs)	205.5900	195.4720	N/A	N/A	tonnes
1330-20-7	Xylene (all isomers)	2.9490	N/A	N/A	N/A	tonnes

Applicable Programs

CAS RN	Substance Name	NPRI	ON MOE TRA	ON MOE Reg 127/01	First report for this substance to the ON MOE TRA
75-07-0	Acetaldehyde	Yes	Yes		No
NA - 16	Ammonia (total)	Yes	Yes		No
71-43-2	Benzene	Yes	Yes		No
630-08-0	Carbon monoxide	Yes	Yes		No
98-82-8	Cumene	No	No		No
110-82-7	Cyclohexane	Yes	Yes		No
100-41-4	Ethylbenzene	Yes	Yes		No
67-56-1	Methanol	Yes	Yes		No
110-54-3	n-Hexane	Yes	Yes		No
11104-93-1	Nitrogen oxides (expressed as NO2)	Yes	Yes		No
NA - M09	PM10 - Particulate Matter <= 10 Microns	Yes	Yes		No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Yes	Yes		No
7664-93-9	Sulphuric acid	Yes	Yes		No
108-88-3	Toluene	Yes	Yes		No
NA - M08	Total Particulate Matter	Yes	Yes		No
NA - M16	Volatile Organic Compounds (VOCs)	Yes	Yes		No
1330-20-7	Xylene (all isomers)	Yes	Yes		No

General Information about the Substance - Releases and Transfers of the Substance

CAS RN	Substance Name	Was the substance released on-site	The substance will be reported as the sum of releases to all media (total of 1 tonne or less)	1 tonne or more of a Part 5 Substance (Speciated VOC) was released to air
75-07-0	Acetaldehyde	Yes	No	No
NA - 16	Ammonia (total)	Yes	No	No
71-43-2	Benzene	Yes	Yes	No
98-82-8	Cumene	No	No	No
110-82-7	Cyclohexane	Yes	No	No
100-41-4	Ethylbenzene	Yes	Yes	No
67-56-1	Methanol	Yes	No	No
110-54-3	n-Hexane	Yes	No	No
7664-93-9	Sulphuric acid	No	No	No
108-88-3	Toluene	Yes	No	No
NA - M16	Volatile Organic Compounds (VOCs)		No	Yes
1330-20-7	Xylene (all isomers)	Yes	No	No

General Information about the Substance - Disposals and Off-site Transfers for Recycling

CAS RN	Substance Name	Was the substance disposed of (on-site or off-site), or transferred for treatment prior to final disposal	Is the facility required to report on disposals of tailings and waste rock for the selected reporting period	Was the substance transferred off-site for recycling
75-07-0	Acetaldehyde	No	No	No
NA - 16	Ammonia (total)	No	No	No
71-43-2	Benzene	No	No	No
98-82-8	Cumene	No	No	No
110-82-7	Cyclohexane	No	No	No
100-41-4	Ethylbenzene	No	No	No
67-56-1	Methanol	No	No	No
110-54-3	n-Hexane	No	No	No
7664-93-9	Sulphuric acid	No	No	No
108-88-3	Toluene	No	No	No
NA - M16	Volatile Organic Compounds (VOCs)			

CAS RN	Substance Name	Was the substance disposed of (on-site or off-site), or transferred for treatment prior to final disposal	Is the facility required to report on disposals of tailings and waste rock for the selected reporting period	Was the substance transferred off-site for recycling
1330-20-7	Xylene (all isomers)	No	No	No

General Information about the Substance - Nature of Activities

CAS RN	Substance Name	Manufacture the Substance	Process the Substance	Otherwise Use of the Substance
75-07-0	Acetaldehyde	As an impurity		
NA - 16	Ammonia (total)	As a by-product		As a physical or chemical processing aid
71-43-2	Benzene		As a formulation component	
98-82-8	Cumene		As a formulation component	
110-82-7	Cyclohexane		As a formulation component	
100-41-4	Ethylbenzene		As a formulation component	
67-56-1	Methanol	As an impurity	As a formulation component	
110-54-3	n-Hexane	As a by-product		
7664-93-9	Sulphuric acid			As a physical or chemical processing aid
108-88-3	Toluene	As an impurity	As a formulation component	
NA - M16	Volatile Organic Compounds (VOCs)			
1330-20-7	Xylene (all isomers)		As a formulation component	

TRA Quantifications

CAS RN	Substance Name	Use, Creation, Contained	Quantity	Use ranges for public reporting
75-07-0	Acetaldehyde	Use	0 tonnes	No
75-07-0	Acetaldehyde	Creation	5.902 tonnes	Yes
75-07-0	Acetaldehyde	Contained	2.951 tonnes	Yes
NA - 16	Ammonia (total)	Use	925.212 tonnes	Yes
NA - 16	Ammonia (total)	Creation	3.333 tonnes	Yes
NA - 16	Ammonia (total)	Contained	0 tonnes	No
71-43-2	Benzene	Use	10.720 tonnes	Yes
71-43-2	Benzene	Creation	0.856 tonnes	No
71-43-2	Benzene	Contained	9.864 tonnes	Yes
630-08-0	Carbon monoxide	Use	0 tonnes	No
630-08-0	Carbon monoxide	Creation	299.008 tonnes	Yes
630-08-0	Carbon monoxide	Contained		
98-82-8	Cumene	Use	0 tonnes	No
98-82-8	Cumene	Creation	0 tonnes	No
98-82-8	Cumene	Contained	0 tonnes	No
110-82-7	Cyclohexane	Use	42.879 tonnes	Yes
110-82-7	Cyclohexane	Creation	0 tonnes	No
110-82-7	Cyclohexane	Contained	42.854 tonnes	Yes
100-41-4	Ethylbenzene	Use	0.054 tonnes	Yes
100-41-4	Ethylbenzene	Creation	0 tonnes	No
100-41-4	Ethylbenzene	Contained	0.0517 tonnes	Yes
67-56-1	Methanol	Use	2.014 tonnes	Yes
67-56-1	Methanol	Creation	170.8 tonnes	Yes
67-56-1	Methanol	Contained	169.0 tonnes	Yes
110-54-3	n-Hexane	Use	0 tonnes	No
110-54-3	n-Hexane	Creation	0.534 tonnes	Yes
110-54-3	n-Hexane	Contained	0 tonnes	No
11104-93-1	Nitrogen oxides (expressed as NO2)	Use	0 tonnes	No
11104-93-1	Nitrogen oxides (expressed as NO2)	Creation	175.934 tonnes	Yes
11104-93-1	Nitrogen oxides (expressed as NO2)	Contained		
NA - M09	PM10 - Particulate Matter <= 10 Microns	Use	0 tonnes	No
NA - M09	PM10 - Particulate Matter <= 10 Microns	Creation	40.895 tonnes	Yes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Contained		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Use	0 tonnes	No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Creation	8.252 tonnes	Yes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Contained		
7664-93-9	Sulphuric acid	Use	1842.7 tonnes	Yes
7664-93-9	Sulphuric acid	Creation	0 tonnes	No
7664-93-9	Sulphuric acid	Contained	0 tonnes	No

CAS RN	Substance Name	Use, Creation, Contained	Quantity	Use ranges for public reporting
108-88-3	Toluene	Use	7.146 tonnes	Yes
108-88-3	Toluene	Creation	0.474 tonnes	Yes
108-88-3	Toluene	Contained	7.142 tonnes	Yes
NA - M08	Total Particulate Matter	Use	0 tonnes	No
NA - M08	Total Particulate Matter	Creation	118.757 tonnes	Yes
NA - M08	Total Particulate Matter	Contained		
NA - M16	Volatile Organic Compounds (VOCs)	Use	1119.7 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Creation	180.4 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Contained		
1330-20-7	Xylene (all isomers)	Use	11.454 tonnes	Yes
1330-20-7	Xylene (all isomers)	Creation	0 tonnes	No
1330-20-7	Xylene (all isomers)	Contained	11.451 tonnes	Yes

TRA Quantifications - VOC Breakdown List

CAS RN	Substance Name	Use, Creation, Contained	Quantity
71-43-2	Benzene	Use	10.7 tonnes
64-17-5	Ethanol	Creation	188.406 tonnes
141-78-6	Ethyl acetate	Use	3.279 tonnes
67-56-1	Methanol	Use	2.014 tonnes
67-56-1	Methanol	Creation	165 tonnes
110-54-3	n-Hexane	Use	1119.6 tonnes
108-88-3	Toluene	Use	7.146 tonnes
1330-20-7	Xylene (all isomers)	Use	12.2 tonnes

TRA Quantifications - Total Speciated VOCs

Use, Creation, Contained	Quantity
Use	1154.939 tonnes
Creation	353.406 tonnes

TRA Quantifications - Others

CAS RN	Substance Name	Change in Method of Quantification	Reasons for Change	Description of how the change impact tracking and quantification of the substance	Incidents out of the normal course of events	Significant Process Change
75-07-0	Acetaldehyde					No
NA - 16	Ammonia (total)					No
71-43-2	Benzene					No
630-08-0	Carbon monoxide					No
98-82-8	Cumene					No
110-82-7	Cyclohexane					No
100-41-4	Ethylbenzene					No
67-56-1	Methanol					No
110-54-3	n-Hexane					No
11104-93-1	Nitrogen oxides (expressed as NO2)					No
NA - M09	PM10 - Particulate Matter <= 10 Microns					No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns					No
7664-93-9	Sulphuric acid					No
108-88-3	Toluene					No
NA - M08	Total Particulate Matter					No
NA - M16	Volatile Organic Compounds (VOCs)					No
1330-20-7	Xylene (all isomers)					No

On-site Releases - Releases to air

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
75-07-0	Acetaldehyde	Stack or Point Releases	M3 - Source Testing		0 tonnes
75-07-0	Acetaldehyde	Fugitive Releases	O - Engineering Estimates		0.669 tonnes
75-07-0	Acetaldehyde	Other Non-point Releases	M3 - Source Testing		5.233 tonnes

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
NA - 16	Ammonia (total)	Stack or Point Releases	E2 - Published Emission Factors		3.333 tonnes
630-08-0	Carbon monoxide	Stack or Point Releases	E2 - Published Emission Factors		298.365 tonnes
630-08-0	Carbon monoxide	Other Non-point Releases	O - Engineering Estimates		0.643 tonnes
110-82-7	Cyclohexane	Storage or Handling Releases	O - Engineering Estimates		0.025 tonnes
67-56-1	Methanol	Stack or Point Releases	M3 - Source Testing		0.877 tonnes
67-56-1	Methanol	Storage or Handling Releases	O - Engineering Estimates		0.824 tonnes
67-56-1	Methanol	Fugitive Releases	O - Engineering Estimates		0.038 tonnes
110-54-3	n-Hexane	Stack or Point Releases	E2 - Published Emission Factors		0.534 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	Stack or Point Releases	E2 - Published Emission Factors		125.050 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	Fugitive Releases	O - Engineering Estimates		50.449 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	Other Non-point Releases	E2 - Published Emission Factors		0.435 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Stack or Point Releases	O - Engineering Estimates		32.348 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Storage or Handling Releases	E2 - Published Emission Factors		1.831 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Fugitive Releases	E2 - Published Emission Factors		6.716 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Stack or Point Releases	M3 - Source Testing		5.371 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Storage or Handling Releases	E2 - Published Emission Factors		0.314 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Fugitive Releases	E2 - Published Emission Factors		2.567 tonnes
108-88-3	Toluene	Stack or Point Releases	M3 - Source Testing		0.463 tonnes
108-88-3	Toluene	Storage or Handling Releases	O - Engineering Estimates		0.015 tonnes
NA - M08	Total Particulate Matter	Stack or Point Releases	M3 - Source Testing		80.166 tonnes
NA - M08	Total Particulate Matter	Storage or Handling Releases	E2 - Published Emission Factors		37.36 tonnes
NA - M08	Total Particulate Matter	Fugitive Releases	E2 - Published Emission Factors		1.231 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Stack or Point Releases	M3 - Source Testing		9.874 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Storage or Handling Releases	O - Engineering Estimates		80.958 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Fugitive Releases	O - Engineering Estimates		16.343 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Non-point Releases	O - Engineering Estimates		98.415 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Sources - Speciated VOCs	NA - Not Applicable		195.716 tonnes
1330-20-7	Xylene (all isomers)	Storage or Handling Releases	M3 - Source Testing		2.949 tonnes

On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
75-07-0	Acetaldehyde	5.902 tonnes
NA - 16	Ammonia (total)	3.333 tonnes
630-08-0	Carbon monoxide	299.008 tonnes
110-82-7	Cyclohexane	0.025 tonnes
67-56-1	Methanol	1.739 tonnes
110-54-3	n-Hexane	0.534 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	175.934 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	40.895 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	8.252 tonnes
108-88-3	Toluene	0.478 tonnes
NA - M08	Total Particulate Matter	118.757 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	205.590 tonnes
1330-20-7	Xylene (all isomers)	2.949 tonnes

On-site Releases - Releases to air - Releases from Stacks equal to or greater than 50m

CAS RN	Substance Name	Stack Name	Quantity	Height (m)	Diameter (m)	Exit Velocity (m/s)	Exit Temperature (°C)
11104-93-1	Nitrogen oxides (expressed as NO2)	dry distillers grains dryer stack	21.072 tonnes	76.2000	1.7000	21.000	80.000
630-08-0	Carbon monoxide	dry distillers grains dryer stack	291.691 tonnes	76.2000	1.7000	21.000	80.000
NA - M08	Total Particulate Matter	dry distillers grains dryer stack	77.907 tonnes	76.2000	1.7000	21.000	80.000
NA - M09	PM10 - Particulate Matter <= 10 Microns	dry distillers grains dryer stack	31.163 tonnes	76.2000	1.7000	21.000	80.000
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	dry distillers grains dryer stack	3.895 tonnes	76.2000	1.7000	21.000	80.000
NA - M16	Volatile Organic Compounds (VOCs)	dry distillers grains dryer stack	9.874 tonnes	76.2000	1.7000	21.000	80.000

On-site Releases - Releases to air - VOC Stack Breakdown List

Stack Name	CAS RN	Substance Name	Quantity
dry distillers grains dryer stack	110-54-3	n-Hexane	0.457 tonnes
dry distillers grains dryer stack	108-88-3	Toluene	0.009 tonnes

On-site Releases - Releases to air - VOC Breakdown List

Category	CAS RN	Substance Name	Quantity
Other Sources - Speciated VOCs	64-17-5	Ethanol	188.4 tonnes
Other Sources - Speciated VOCs	141-78-6	Ethyl acetate	3.286 tonnes
Other Sources - Speciated VOCs	67-56-1	Methanol	1.739 tonnes
Other Sources - Speciated VOCs	74-98-6	Propane	1.581 tonnes

Total Quantity Released (All Media)

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
71-43-2	Benzene	Total Quantity Released	O - Engineering Estimates		0.856 tonnes
100-41-4	Ethylbenzene	Total Quantity Released	M3 - Source Testing		0.393 tonnes

On-site Releases - Total

CAS RN	Substance Name	Total releases
75-07-0	Acetaldehyde	5.902 tonnes
NA - 16	Ammonia (total)	3.333 tonnes
110-82-7	Cyclohexane	0.025 tonnes
67-56-1	Methanol	1.739 tonnes
110-54-3	n-Hexane	0.534 tonnes
108-88-3	Toluene	0.478 tonnes
1330-20-7	Xylene (all isomers)	2.949 tonnes

On-site Releases - Quarterly Breakdown of Annual Releases

CAS RN	Substance Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
75-07-0	Acetaldehyde	25	25	25	25
NA - 16	Ammonia (total)	25	25	25	25
71-43-2	Benzene	25	25	25	25
110-82-7	Cyclohexane	25	25	25	25
100-41-4	Ethylbenzene	25	25	25	25
67-56-1	Methanol	25	25	25	25
110-54-3	n-Hexane	25	25	25	25
108-88-3	Toluene	25	25	25	25
1330-20-7	Xylene (all isomers)	25	25	25	25

On-site Releases - Monthly Breakdown of Annual Releases

CAS RN	Substance Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
630-08-0	Carbon monoxide	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34
11104-93-1	Nitrogen oxides (expressed as NO2)	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34
NA - M09	PM10 - Particulate Matter <= 10 Microns	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34
NA - M08	Total Particulate Matter	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34
NA - M16	Volatile Organic Compounds (VOCs)	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34	8.33	8.33	8.34

On-site Releases - Reasons for Changes in Quantities Released from Previous Year

CAS RN	Substance Name	Reasons for Changes in Quantities Disposed from	Comments (Disposals)
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Previous Year

100-41-4	Ethylbenzene	Other (specify in On-site Releases comment field)	Emission testing completed.
108-88-3	Toluene	Other (specify in On-site Releases comment field)	Emission Remodeling completed.
110-54-3	n-Hexane	No significant change (i.e. < 10%) or no change	
110-82-7	Cyclohexane	No significant change (i.e. < 10%) or no change	
11104-93-1	Nitrogen oxides (expressed as NO2)	Other (specify in On-site Releases comment field)	Source emission testing completed.
1330-20-7	Xylene (all isomers)	Other (specify in On-site Releases comment field)	Change in quantity of denaturant used.
630-08-0	Carbon monoxide	Other (specify in On-site Releases comment field)	Remodeling has been completed.
67-56-1	Methanol	Changes in production levels	
71-43-2	Benzene	No significant change (i.e. < 10%) or no change	10.720 tonnes of benzene contained in gasoline which is used as an ethanol denaturant.
75-07-0	Acetaldehyde	Other (specify in On-site Releases comment field)	Emission testing verified no acetaldehyde released from the dryer stack.
7664-93-9	Sulphuric acid	No significant change (i.e. < 10%) or no change	
98-82-8	Cumene	Other (specify in On-site Releases comment field)	Cumene is not present in the natural gasoline that is utilized as a denaturant.
NA - 16	Ammonia (total)	No significant change (i.e. < 10%) or no change	Used 925 tonnes of 100% ammonia for pH and nutrient requirements of process and loss was zero. Emission is based on ammonia release from combustion of Natural Gas.
NA - M08	Total Particulate Matter	Other (specify in On-site Releases comment field)	Source testing of dryer stack has displayed decreased Total PM due to improved dryer efficiency.
NA - M09	PM10 - Particulate Matter <= 10 Microns	Pollution prevention activities	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Other (specify in On-site Releases comment field)	Shutdown of one hammermill and improved dryer operation has led to a reduction.
NA - M16	Volatile Organic Compounds (VOCs)	Changes in production levels Other (specify in On-site Releases comment field)	Emission remodeling completed.

Disposals - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Disposed	Reasons for Changes in Quantities Disposed from Previous Year	Comments (Disposals)
100-41-4	Ethylbenzene		No significant change (i.e. < 10%) or no change	
108-88-3	Toluene		No significant change (i.e. < 10%) or no change	
110-54-3	n-Hexane		No significant change (i.e. < 10%) or no change	
110-82-7	Cyclohexane		No significant change (i.e. < 10%) or no change	
1330-20-7	Xylene (all isomers)		No significant change (i.e. < 10%) or no change	
67-56-1	Methanol		No significant change (i.e. < 10%) or no change	
71-43-2	Benzene		No significant change (i.e. < 10%) or no change	
75-07-0	Acetaldehyde		No significant change (i.e. < 10%) or no change	
7664-93-9	Sulphuric acid		No significant change (i.e. < 10%) or no change	
98-82-8	Cumene		No significant change (i.e. < 10%) or no change	
NA - 16	Ammonia (total)		No significant change (i.e. < 10%) or no change	

Recycling - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Recycled	Reasons for Changes in Quantities Recycled from Previous Year	Comments
100-41-4	Ethylbenzene		No significant change (i.e. < 10%) or no change	
108-88-3	Toluene		No significant change (i.e. < 10%) or no change	
110-54-3	n-Hexane		No significant change (i.e. < 10%) or no change	
110-82-7	Cyclohexane		No significant change (i.e. < 10%) or no change	
1330-20-7	Xylene (all isomers)		No significant change (i.e. < 10%) or no change	
67-56-1	Methanol		No significant change (i.e. < 10%) or no change	
71-43-2	Benzene		No significant change (i.e. < 10%) or no change	
75-07-0	Acetaldehyde		No significant change (i.e. < 10%) or no change	
7664-93-9	Sulphuric acid		No significant change (i.e. < 10%) or no change	
98-82-8	Cumene		No significant change (i.e. < 10%) or no change	
NA - 16	Ammonia (total)		No significant change (i.e. < 10%) or no change	

Comparison Report - Enters, Creation, Contained in Product

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
75-07-0	Acetaldehyde	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
75-07-0	Acetaldehyde	No	Creation	5.902 tonnes	19.819 tonnes	2014	-13.917	-70.22
75-07-0	Acetaldehyde	No	Contained	2.951 tonnes	9.94 tonnes	2014	-6.989	-70.31
NA - 16	Ammonia (total)	No	Enters the facility (Use)	925.212 tonnes	704.159 tonnes	2014	221.053	31.39
NA - 16	Ammonia (total)	No	Creation	3.333 tonnes	3.399 tonnes	2014	-0.066	-1.94
NA - 16	Ammonia (total)	No	Contained	0 tonnes	0 tonnes	2014	0	
71-43-2	Benzene	No	Enters the facility (Use)	10.720 tonnes	10.037 tonnes	2014	0.683	6.80
71-43-2	Benzene	No	Creation	0.856 tonnes	0 tonnes	2014	0.856	100
71-43-2	Benzene	No	Contained	9.864 tonnes	10.037 tonnes	2014	-0.173	-1.72
71-43-2	Benzene	Yes	Enters the facility (Use)	10.7 tonnes	0.034 tonnes	2014	10.666	31370.59
630-08-0	Carbon monoxide	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
630-08-0	Carbon monoxide	No	Creation	299.008 tonnes	103.127 tonnes	2014	195.881	189.94
98-82-8	Cumene	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
98-82-8	Cumene	No	Creation	0 tonnes	0 tonnes	2014	0	
98-82-8	Cumene	No	Contained	0 tonnes	0 tonnes	2014	0	
110-82-7	Cyclohexane	No	Enters the facility (Use)	42.879 tonnes	40.147 tonnes	2014	2.732	6.80
110-82-7	Cyclohexane	No	Creation	0 tonnes	0 tonnes	2014	0	
110-82-7	Cyclohexane	No	Contained	42.854 tonnes	40.119 tonnes	2014	2.735	6.82
141-78-6	Ethyl acetate	Yes	Enters the facility (Use)	3.279 tonnes	3.279 tonnes	2014	0.000	0
100-41-4	Ethylbenzene	No	Enters the facility (Use)	0.054 tonnes	0.052 tonnes	2014	0.002	3.85
100-41-4	Ethylbenzene	No	Creation	0 tonnes	0 tonnes	2014	0	
100-41-4	Ethylbenzene	No	Contained	0.0517 tonnes	0.0517 tonnes	2014	0.0000	0
67-56-1	Methanol	No	Enters the facility (Use)	2.014 tonnes	2.079 tonnes	2014	-0.065	-3.13
67-56-1	Methanol	No	Creation	170.8 tonnes	198.8 tonnes	2014	-28.0	-14.08
67-56-1	Methanol	No	Contained	169.0 tonnes	197.0 tonnes	2014	-28.0	-14.21
67-56-1	Methanol	Yes	Enters the facility (Use)	2.014 tonnes	2.079 tonnes	2014	-0.065	-3.13
67-56-1	Methanol	Yes	Creation	165 tonnes	198 tonnes	2014	-33	-16.67
110-54-3	n-Hexane	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
110-54-3	n-Hexane	No	Creation	0.534 tonnes	1.827 tonnes	2014	-1.293	-70.77
110-54-3	n-Hexane	No	Contained	0 tonnes	0 tonnes	2014	0	
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Creation	175.934 tonnes	125.434 tonnes	2014	50.500	40.26
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Creation	40.895 tonnes	40.895 tonnes	2014	0.000	0
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Creation	8.252 tonnes	24.061 tonnes	2014	-15.809	-65.70
7664-93-9	Sulphuric acid	No	Enters the facility (Use)	1842.7 tonnes	1470.8 tonnes	2014	371.9	25.29
7664-93-9	Sulphuric acid	No	Creation	0 tonnes	0 tonnes	2014	0	
7664-93-9	Sulphuric acid	No	Contained	0 tonnes	0 tonnes	2014	0	
108-88-3	Toluene	No	Enters the facility (Use)	7.146 tonnes	6.691 tonnes	2014	0.455	6.80

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
108-88-3	Toluene	No	Creation	0.474 tonnes	0 tonnes	2014	0.474	100
108-88-3	Toluene	No	Contained	7.142 tonnes	6.689 tonnes	2014	0.453	6.77
108-88-3	Toluene	Yes	Enters the facility (Use)	7.146 tonnes	6.691 tonnes	2014	0.455	6.80
NA - M08	Total Particulate Matter	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
NA - M08	Total Particulate Matter	No	Creation	118.757 tonnes	217.873 tonnes	2014	-99.116	-45.49
1330-20-7	Xylene (all isomers)	No	Enters the facility (Use)	11.454 tonnes	1.427 tonnes	2014	10.027	702.66
1330-20-7	Xylene (all isomers)	No	Creation	0 tonnes	0 tonnes	2014	0	
1330-20-7	Xylene (all isomers)	No	Contained	11.451 tonnes	1.424 tonnes	2014	10.027	704.14
1330-20-7	Xylene (all isomers)	Yes	Enters the facility (Use)	12.2 tonnes	1.427 tonnes	2014	10.773	754.94

Comparison Report - Enters, Creation, Contained in Product : Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
75-07-0	Acetaldehyde	Implementation of toxics reduction option(s)	
NA - 16	Ammonia (total)	Abnormal incident occurred at facility in the current reporting year	
71-43-2	Benzene	No reasons - quantities approximately the same	
630-08-0	Carbon monoxide	Other	Emission remodeling has been completed.
98-82-8	Cumene	Implementation of toxics reduction option(s)	
110-82-7	Cyclohexane	No reasons - quantities approximately the same	
100-41-4	Ethylbenzene	No reasons - quantities approximately the same	
67-56-1	Methanol	Decrease in production levels	
110-54-3	n-Hexane	Decrease in production levels Other	Emission testing completed.
11104-93-1	Nitrogen oxides (expressed as NO2)	Other	Source emission testing completed.
NA - M09	PM10 - Particulate Matter <= 10 Microns	Implementation of toxics reduction option(s)	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Implementation of toxics reduction option(s)	
7664-93-9	Sulphuric acid	Other	Increased in trial to improve yield.
108-88-3	Toluene	Other	Emission remodeling completed.
NA - M08	Total Particulate Matter	Implementation of toxics reduction option(s)	
NA - M16	Volatile Organic Compounds (VOCs)	No reasons - quantities approximately the same Implementation of toxics reduction option(s)	
1330-20-7	Xylene (all isomers)	Other	Increase in denaturant usage.

Comparison Report - On-site Releases

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
75-07-0	Acetaldehyde	No	Total Releases to Air	5.902 tonnes	19.079 tonnes	2014	-13.177	-69.07
75-07-0	Acetaldehyde	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
75-07-0	Acetaldehyde	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
75-07-0	Acetaldehyde	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
NA - 16	Ammonia (total)	No	Total Releases to Air	3.333 tonnes	3.399 tonnes	2014	-0.066	-1.94
NA - 16	Ammonia (total)	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - 16	Ammonia (total)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - 16	Ammonia (total)	No	Total Releases to All Media	0 tonnes	0 tonnes	2012	0	
71-43-2	Benzene	No	Total Releases to Air	0 tonnes	0 tonnes	2014	0	
71-43-2	Benzene	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
71-43-2	Benzene	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
71-43-2	Benzene	No	Total Releases to All Media	0.856 tonnes	0.034 tonnes	2014	0.822	2417.65
630-08-0	Carbon monoxide	No	Total Releases to Air	299.008 tonnes	116.352 tonnes	2013	182.656	156.99

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
630-08-0	Carbon monoxide	No	Total Releases to Water	0 tonnes	0 tonnes	2013	0	
630-08-0	Carbon monoxide	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
630-08-0	Carbon monoxide	No	Total Releases to All Media	0 tonnes	0 tonnes	2012	0	
110-82-7	Cyclohexane	No	Total Releases to Air	0.025 tonnes	0.028 tonnes	2014	-0.003	-10.71
110-82-7	Cyclohexane	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
110-82-7	Cyclohexane	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
110-82-7	Cyclohexane	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
64-17-5	Ethanol	Yes	Total Releases to Air	188.4 tonnes	320.696 tonnes	2014	-132.296	-41.25
141-78-6	Ethyl acetate	Yes	Total Releases to Air	3.286 tonnes	3.279 tonnes	2014	0.007	0.21
100-41-4	Ethylbenzene	No	Total Releases to Air	0 tonnes	0 tonnes	2014	0	
100-41-4	Ethylbenzene	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
100-41-4	Ethylbenzene	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
100-41-4	Ethylbenzene	No	Total Releases to All Media	0.393 tonnes	0.0003 tonnes	2014	0.3927	130900
67-56-1	Methanol	No	Total Releases to Air	1.739 tonnes	1.774 tonnes	2014	-0.035	-1.97
67-56-1	Methanol	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
67-56-1	Methanol	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
67-56-1	Methanol	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
67-56-1	Methanol	Yes	Total Releases to Air	1.739 tonnes	1.774 tonnes	2014	-0.035	-1.97
110-54-3	n-Hexane	No	Total Releases to Air	0.534 tonnes	1.827 tonnes	2014	-1.293	-70.77
110-54-3	n-Hexane	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
110-54-3	n-Hexane	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
110-54-3	n-Hexane	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
110-54-3	n-Hexane	Yes	Total Releases to Air	0.457 tonnes	0.457 tonnes	2014	0.000	0
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Air	175.934 tonnes	124.955 tonnes	2014	50.979	40.80
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Air	40.895 tonnes	78.869 tonnes	2014	-37.974	-48.15
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to All Media	0 tonnes	0 tonnes	2012	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Air	8.252 tonnes	24.0606 tonnes	2014	-15.8086	-65.70
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
74-98-6	Propane	Yes	Total Releases to Air	1.581 tonnes	0.403 tonnes	2014	1.178	292.31
108-88-3	Toluene	No	Total Releases to Air	0.478 tonnes	0.021 tonnes	2014	0.457	2176.19

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
108-88-3	Toluene	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
108-88-3	Toluene	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
108-88-3	Toluene	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
108-88-3	Toluene	Yes	Total Releases to Air	0.009 tonnes	0.009 tonnes	2014	0.000	0
NA - M08	Total Particulate Matter	No	Total Releases to Air	118.757 tonnes	217.873 tonnes	2014	-99.116	-45.49
NA - M08	Total Particulate Matter	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - M08	Total Particulate Matter	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - M08	Total Particulate Matter	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	
1330-20-7	Xylene (all isomers)	No	Total Releases to Air	2.949 tonnes	0.0026 tonnes	2014	2.9464	113323.08
1330-20-7	Xylene (all isomers)	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
1330-20-7	Xylene (all isomers)	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
1330-20-7	Xylene (all isomers)	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	

Comparison Report - On-site Releases - Reason(s) for Change

CAS RN	Substance Name	Reason(s) for Change	Other Reason
75-07-0	Acetaldehyde	Implementation of toxics reduction option(s)	
NA - 16	Ammonia (total)	No reasons - quantities approximately the same	
71-43-2	Benzene	Other	Emission testing completed.
630-08-0	Carbon monoxide	Other	Emission remodeling has been completed
110-82-7	Cyclohexane	No reasons - quantities approximately the same	
100-41-4	Ethylbenzene	Other	Emission testing completed.
67-56-1	Methanol	No reasons - quantities approximately the same	
110-54-3	n-Hexane	Decrease in production levels Other	Emission testing completed.
11104-93-1	Nitrogen oxides (expressed as NO2)	Other	Source emission testing completed.
NA - M09	PM10 - Particulate Matter <= 10 Microns	Implementation of toxics reduction option(s)	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Implementation of toxics reduction option(s)	
108-88-3	Toluene	Other	Emission remodeling completed.
NA - M08	Total Particulate Matter	Implementation of toxics reduction option(s)	
NA - M16	Volatile Organic Compounds (VOCs)	Other	Emission testing completed.
1330-20-7	Xylene (all isomers)	Other	Change in denaturant usage.

Pollution Prevention

Does the facility have a documented pollution prevention plan?

Yes

a) Please check all that apply

Plan was required by a P2 Planning Notice published under the Canadian Environmental Protection Act, 1999? Specify name in comments field below.

b) Did the facility update their plan in the current reporting year?

Yes

c) Does the plan address substances, energy conservation, or water conservation?

Substances

Please summarize your pollution prevention plan and/or your pollution prevention activities (this information will be publicly available)

EC E2 plan related to use of aqueous (30%) ammonia.

Did the facility complete any pollution prevention activities in the current NPRI reporting year

No

Progress on TRA Plan - Objectives

CAS RN	Substance Name	Objectives
75-07-0	Acetaldehyde	GFE, Chatham Facility intends to reduce the creation of Acetaldehyde by 1%.
NA - 16	Ammonia (total)	GFSa, Chatham Facility intends to reduce the use of ammonia through product design and equipment or process modification.
71-43-2	Benzene	GFE, Chatham Facility intends to reduce the use of Benzene by 67%.

CAS RN	Substance Name	Objectives
630-08-0	Carbon monoxide	It has been determined that it is not technically and economically feasible at this time to reduce the creation of carbon monoxide. Even though GFSA Chatham facility has decided not to implement any reduction options at this time it will revisit it in the future.
98-82-8	Cumene	- GFSA, Chatham Facility intends to reduce its use of Cumene by substituting regular gasoline with natural gasoline, containing lower levels of toxic substances
110-82-7	Cyclohexane	It has been determined that it is not technically and economically feasible at this time to reduce the use of cyclohexane. Even though Greenfield Specialty Alcohols Inc., Chatham Facility has decided not to implement any reduction options at this time it will revisit it in the future.
64-17-5	Ethanol	While GFSA, Chatham Facility does not intend to reduce the creation of ethyl alcohol, any opportunities for improved efficiencies and optimization will be reviewed and considered.
141-78-6	Ethyl acetate	It has been determined that it is not technically and economically feasible at this time to reduce the creation of ethyl acetate. Even though GFSA Chatham facility has decided not to implement any reduction options at this time it will revisit it in the future.
100-41-4	Ethylbenzene	GFE, Chatham Facility intends to reduce the use of Ethylbenzene by 100%.
67-56-1	Methanol	While GFE, Chatham Facility does not intend to reduce the creation of methanol at the present time, any opportunities for reduction will be reviewed and considered.
110-54-3	n-Hexane	It has been determined that it is not technically and economically feasible at this time to reduce the use of n-Hexane. Even though GFSA Chatham facility has decided not to implement any reduction options at this time it will revisit it in the future.
11104-93-1	Nitrogen oxides (expressed as NO2)	It has been determined that it is not technically and economically feasible at this time to reduce the creation of nitrogen oxides. Even though GFSA Chatham facility has decided not to implement any reduction options at this time it will revisit it in the future.
NA - M09	PM10 - Particulate Matter <= 10 Microns	GFSA, Chatham Facility intends to reduce the creation of Particulate Matter 10 microns through a new leak detection program.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	GFSA, Chatham Facility intends to reduce the creation of Particulate Matter <= 2.5 microns through a new leak detection program.
74-98-6	Propane	It has been determined that it is not technically and economically feasible at this time to reduce the use of formaldehyde. Even though Greenfield Specialty Alcohols Inc., Chatham Facility has decided not to implement any reduction options at this time it will revisit it in the future.
7664-93-9	Sulphuric acid	GFE, Chatham Facility intends to reduce the use of sulphuric acid by 5% over a 6 year period.
108-88-3	Toluene	GFE, Chatham Facility intends to reduce the use of Toluene by 97%.
NA - M08	Total Particulate Matter	GFSA, Chatham Facility intends to reduce the creation of Total Particulate Matter through a new leak detection program.
1330-20-7	Xylene (all isomers)	GFE, Chatham Facility intends to reduce the use of Xylene by 99.4%.

Progress on TRA Plan - Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
75-07-0	Acetaldehyde	0.21 tonnes	1	
NA - 16	Ammonia (total)	No quantity target	No timeline target	
71-43-2	Benzene	3.82 tonnes	1	
630-08-0	Carbon monoxide	No quantity target	No timeline target	
98-82-8	Cumene	No quantity target	No timeline target	
110-82-7	Cyclohexane	No quantity target	No timeline target	
64-17-5	Ethanol	No quantity target	No timeline target	
141-78-6	Ethyl acetate	No quantity target	No timeline target	
100-41-4	Ethylbenzene	22.9 tonnes	1	
67-56-1	Methanol	No quantity target	No timeline target	
110-54-3	n-Hexane	No quantity target	No timeline target	
11104-93-1	Nitrogen oxides (expressed as NO2)	No quantity target	No timeline target	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No quantity target	No timeline target	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No quantity target	No timeline target	
74-98-6	Propane	No quantity target	No timeline target	
7664-93-9	Sulphuric acid	123.1 tonnes	6	
108-88-3	Toluene	166.67 tonnes	1	- Substituting regular gasoline with natural gasoline, containing lower levels of toxic substances
NA - M08	Total Particulate Matter	No quantity target	No timeline target	
1330-20-7	Xylene (all isomers)	136.5 tonnes	1	

Progress on TRA Plan - Description

CAS RN	Substance Name	Quantity	Years	Description of Target
75-07-0	Acetaldehyde	No quantity target	No timeline target	
NA - 16	Ammonia (total)	No quantity target	No timeline target	
71-43-2	Benzene	No quantity target	No timeline target	
630-08-0	Carbon monoxide	No quantity target	No timeline target	
98-82-8	Cumene	No quantity target	No timeline target	
110-82-7	Cyclohexane	No quantity target	No timeline target	
64-17-5	Ethanol	No quantity target	No timeline target	
141-78-6	Ethyl acetate	No quantity target	No timeline target	
100-41-4	Ethylbenzene	No quantity target	No timeline target	
67-56-1	Methanol	No quantity target	No timeline target	
110-54-3	n-Hexane	No quantity target	No timeline target	
11104-93-1	Nitrogen oxides (expressed as NO2)	No quantity target	No timeline target	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No quantity target	No timeline target	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No quantity target	No timeline target	
74-98-6	Propane	No quantity target	No timeline target	
7664-93-9	Sulphuric acid	No quantity target	No timeline target	
108-88-3	Toluene	No quantity target	No timeline target	
NA - M08	Total Particulate Matter	No quantity target	No timeline target	
1330-20-7	Xylene (all isomers)	No quantity target	No timeline target	

Progress on TRA Plan - Toxic Reduction Options Implemented

CAS RN	Substance Name	Activity	Steps that were taken in the reporting period to implement the toxic reduction option	Public summary of the description of the steps	Comparison of the steps that were described in the plan for implementation with the actual steps taken during the reporting period	Public summary of the comparison of the steps
75-07-0	Acetaldehyde	Modified equipment, layout or piping	Corn oil extraction has reduced load on dryer, along with improved dryer efficiency has resulted in no acetaldehyde detected during emission testing.	Corn oil extraction has reduced load on dryer, along with improved dryer efficiency has resulted in no acetaldehyde detected during emission testing.	On schedule as per plan.	Corn oil extraction has reduced load on dryer, along with improved dryer efficiency has resulted in no acetaldehyde detected during emission testing.
NA - 16	Ammonia (total)	Other	New enzyme trialed to decrease requirement for ammonia but the enzyme was not effective.	New enzyme trialed to decrease requirement for ammonia but the enzyme was not effective. Will continue to source enzymes for this purpose.	All steps targeted for were met.	New enzyme trialed to decrease requirement for ammonia but the enzyme was not effective. Will continue to source enzymes for this purpose.
NA - 16	Ammonia (total)	Modified design or composition	New software in place to monitor plant conditions and tighter operating parameters.	New software in place to monitor plant conditions and tighter operating parameters.	Target for implementation of new software was on schedule.	New software in place to monitor plant conditions and tighter operating parameters.
71-43-2	Benzene	Substituted materials	Continued use of the denaturant natural gasoline which contains lower levels of benzene than regular gasoline.	Continued use of the denaturant natural gasoline which contains lower levels of benzene than regular gasoline.	On schedule according to plan.	Continued use of the denaturant natural gasoline which contains lower levels of benzene than regular gasoline.
98-82-8	Cumene	Substituted materials	Switch to natural gasoline as denaturant for fuel ethanol.	Switch to natural gasoline which does not contain cumene for fuel ethanol denaturing	On schedule to plan.	Switch to natural gasoline which does not contain cumene for fuel ethanol denaturing
100-41-4	Ethylbenzene	Substituted materials	- Substituting regular gasoline with natural gasoline, containing lower levels of toxic substances. Denaturing our fuel ethanol is an Excise Canada requirement.	- Substituting regular gasoline with natural gasoline, containing lower levels of toxic substances	This substitution was implemented according to schedule.	- Substituting regular gasoline with natural gasoline, containing lower levels of toxic substances
NA - M09	PM10 - Particulate Matter <= 10 Microns	Implemented inspection or monitoring program of potential spill or leak sources	PM's in place to maintain equipment to prevent leaks. Improved monitoring program has led to more efficient dryer operation and overall plant efficiency therefore allowing one hammermill to be shut down.	PM's in place to maintain equipment to prevent leaks. Improved monitoring program has led to more efficient dryer operation and overall plant efficiency therefore allowing one hammermill to be shut down.	All steps taken as per schedule in plan.	PM's in place to maintain equipment to prevent leaks. Improved monitoring program has led to more efficient dryer operation and overall plant efficiency therefore allowing one hammermill to be shut down.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Implemented inspection or monitoring program of potential spill or leak sources	PM program in place to maintain equipment in order to prevent leaks. Monitoring of equipment has led to improved dryer operation efficiency. Overall improvement of plant efficiency has allowed one hammermill to be shutdown.	PM program in place to maintain equipment in order to prevent leaks. Monitoring of equipment has led to improved dryer operation efficiency. Overall improvement of plant efficiency has allowed one hammermill to be shutdown.	Implementation of PM's and equipment monitoring on schedule with plan.	PM program in place to maintain equipment in order to prevent leaks. Monitoring of equipment has led to improved dryer operation efficiency. Overall improvement of plant efficiency has allowed one hammermill to be shutdown.
7664-93-9	Sulphuric acid	Modified design or composition	Introduction of new phytase enzyme has reduced requirement for sulphuric acid.	Introduction of new phytase enzyme has reduced requirement for sulphuric acid.	On schedule as per plan, trials ongoing for different enzymes for further reduction.	Introduction of new phytase enzyme has reduced requirement for sulphuric acid.

CAS RN	Substance Name	Activity	Steps that were taken in the reporting period to implement the toxic reduction option	Public summary of the description of the steps	Comparison of the steps that were described in the plan for implementation with the actual steps taken during the reporting period	Public summary of the comparison of the steps
108-88-3	Toluene	Substituted materials	Continued with the usage of natural gasoline as the denaturant for our fuel ethanol.	Continued with the usage of natural gasoline as the denaturant for our fuel ethanol.	On schedule as per plan.	Continued with the usage of natural gasoline as the denaturant for our fuel ethanol.
NA - M08	Total Particulate Matter	Modified equipment, layout or piping	Engineering planning for dryer stack condensing.	Engineering planning for dryer stack condensing.	Engineering planning on schedule as per plan schedule.	Engineering planning for dryer stack condensing.
NA - M08	Total Particulate Matter	Implemented inspection or monitoring program of potential spill or leak sources	Improved monitoring as increased dryer operation efficiency in addition to the shutdown of one hammermill.	Improved monitoring as increased dryer operation efficiency in addition to the shutdown of one hammermill.	Steps taken are on schedule according to plan.	Improved monitoring as increased dryer operation efficiency in addition to the shutdown of one hammermill.
1330-20-7	Xylene (all isomers)	Substituted materials	Continued with switch to natural gasoline as denaturant for our fuel ethanol.	Continued with switch to natural gasoline as denaturant for our fuel ethanol.	On schedule with plan.	Continued with switch to natural gasoline as denaturant for our fuel ethanol.

Progress on TRA Plan - Reductions due to Options Implemented - Equipment or process modifications

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	14.9 tonnes
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the steps described:	3.189 tonnes
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the steps described:	14.7 tonnes
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to steps described:	No Amount
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in the substance disposed on-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in the substance disposed off-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
75-07-0	Acetaldehyde	Modified equipment, layout or piping	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in the substance disposed on-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in the substance disposed off-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 16	Ammonia (total)	Other	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M08	Total Particulate Matter	Modified equipment, layout or piping	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M08	Total Particulate Matter	Modified equipment, layout or piping	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M08	Total Particulate Matter	Modified equipment, layout or piping	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M08	Total Particulate Matter	Modified equipment, layout or piping	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M08	Total Particulate Matter	Modified equipment, layout or piping	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
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Progress on TRA Plan - Additional Actions

CAS RN	Substance Name	Were there any additional actions outside the plan taken during the reporting period to reduce the use and/or creation of the substance?	Describe any additional actions that were taken during the reporting period to achieve the plan's objectives	Provide a public summary of the description of the additional action taken
75-07-0	Acetaldehyde	No		
NA - 16	Ammonia (total)	No		
71-43-2	Benzene	No		
630-08-0	Carbon monoxide	No		
98-82-8	Cumene	No		
110-82-7	Cyclohexane	No		
64-17-5	Ethanol	No		
141-78-6	Ethyl acetate	No		
100-41-4	Ethylbenzene	No		
67-56-1	Methanol	No		
110-54-3	n-Hexane	No		
11104-93-1	Nitrogen oxides (expressed as NO2)	No		
NA - M09	PM10 - Particulate Matter <= 10 Microns	No		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No		
74-98-6	Propane	No		
7664-93-9	Sulphuric acid	No		
108-88-3	Toluene	No		
NA - M08	Total Particulate Matter	No		
1330-20-7	Xylene (all isomers)	No		

Progress on TRA Plan - Reductions due to additional actions taken

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
75-07-0	Acetaldehyde	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in the substance disposed on-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in the substance disposed off-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
75-07-0	Acetaldehyde	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to additional actions.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
1330-20-7	Xylene (all isomers)	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the additional actions.	
1330-20-7	Xylene (all isomers)	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the additional actions.	
1330-20-7	Xylene (all isomers)	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to additional actions.	
1330-20-7	Xylene (all isomers)	The amount of reduction in the substance disposed on-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
1330-20-7	Xylene (all isomers)	The amount of reduction in the substance disposed off-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
1330-20-7	Xylene (all isomers)	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the additional actions.	

Progress on TRA Plan - Amendments

CAS RN	Substance Name	Were any amendments made to the toxic substance reduction plan during the reporting period	Description any amendments that were made to the toxic substance reduction plan during the reporting period	Provide a public summary of the description of any amendments that were made to the toxic substance reduction plan during the reporting period
75-07-0	Acetaldehyde	No		
NA - 16	Ammonia (total)	No		
71-43-2	Benzene	No		
630-08-0	Carbon monoxide	No		
98-82-8	Cumene	No		
110-82-7	Cyclohexane	No		
64-17-5	Ethanol	No		
141-78-6	Ethyl acetate	No		
100-41-4	Ethylbenzene	No		
67-56-1	Methanol	No		
110-54-3	n-Hexane	No		
11104-93-1	Nitrogen oxides (expressed as NO2)	No		
NA - M09	PM10 - Particulate Matter <= 10 Microns	No		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No		
74-98-6	Propane	No		
7664-93-9	Sulphuric acid	No		
108-88-3	Toluene	No		
NA - M08	Total Particulate Matter	No		
1330-20-7	Xylene (all isomers)	No		

Report Submission and Electronic Certification

NPRI - Electronic Statement of Certification

Specify the language of correspondence _____

English

Comments (optional) _____

I hereby certify that I have exercised due diligence to ensure that the submitted information is true and complete. The amounts and values for the facility(ies) identified below are accurate, based on reasonable estimates using available data. The data for the facility(ies) that I represent are hereby submitted to the programs identified below using the Single Window Reporting Application.

I also acknowledge that the data will be made public.

Note: Only the person identified as the Certifying Official or the authorized delegate should submit the report(s) identified below.

Company Name _____

GreenField Specialty Alcohols Inc.

Certifying Official (or authorized delegate) _____

Dianne Schenk

I, the Certifying Official or authorized delegate, agree with the statements above and acknowledge that by pressing the "Submit Report(s)" button, I am electronically certifying and submitting the facility report(s) for the identified company to its affiliated programs.

ON MOE TRA - Electronic Certification Statement

Annual Report Certification Statement

As of 30/05/2016, I, Angelo Ligori, certify that I have read the reports on the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the information contained in the reports is factually accurate and the reports comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under that Act.

TRA Substance List

CAS RN	Substance Name
75-07-0	Acetaldehyde
NA - 16	Ammonia (total)
7664-93-9	Sulphuric acid
630-08-0	Carbon monoxide
NA - M09	PM10 - Particulate Matter <= 10 Microns
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns
NA - M08	Total Particulate Matter
NA - M16	Volatile Organic Compounds (VOCs)
71-43-2	Benzene
108-88-3	Toluene
1330-20-7	Xylene (all isomers)
11104-93-1	Nitrogen oxides (expressed as NO2)
67-56-1	Methanol
100-41-4	Ethylbenzene
110-54-3	n-Hexane
98-82-8	Cumene
110-82-7	Cyclohexane

Company Name

GreenField Specialty Alcohols Inc.

Highest Ranking Employee

Angelo Ligori

Report Submitted by

Dianne Schenk

Website address

I, the highest ranking employee, agree with the certification statement(s) above and acknowledge that by checking the box I am electronically signing the statement(s). I also acknowledge that by pressing the 'Submit Report(s)' button I am submitting the facility record(s)/report(s) for the identified facility to the Director under the Toxics Reduction Act, 2009. I also acknowledge that the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 provide the authority to the Director under the Act to make certain information as specified in subsection 27(5) of Ontario Regulation 455/09 available to the public.

Submitted Report

Period	Submission Date	Facility Name	Province	City	Programs
2015	30/05/2016	Chatham Plant	Ontario	Chatham	NPRI, ON MOE TRA

Note: If there is a change in the contact information for the facility, a change in the owner or operator of the facility, if operations at the facility are terminated, or if information submitted for any previous year was mistaken or inaccurate, please update this information through SWIM or by contacting the National Pollutant Release Inventory directly.



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