

# 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:	31/05/2016 11:04 AM

### 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:	Tiverton Plant
NAICS Code:	325190
NPRI ID:	209
Physical Address:	Address Line 1: 99 Farrell Drive City, Province/Territory, Postal Code: Tiverton Ontario N0G2T0 Country: Canada Latitude: 44.31930 Longitude: -81.56570 UTM Zone: 17 UTM Easting: 454889 UTM Northing: 4907493

### Permits

Number or Permit Number:	2050-743KE4
Government Department, Agency, or Program Name:	Certificate of Approval - Air
Number or Permit Number:	ON1524200
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:	EHS Manager
Telephone:	5193687723
Email:	dianne.schenk@gsa.com
Mailing Address:	Address Line 1: 99 - Farrell Drive

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

Contact Type

Highest Ranking Employee, Public Contact

Name:

James Murr

Position:

Plant Manager

Telephone:

5193687723

Fax:

5193687016

Email:

jim.murr@gfsa.com

Mailing Address:

Address Line 1: 99 - Farrell Drive  
City, Province/Territory, Postal Code: Tiverton Ontario N0G 2T0  
Country: Canada

## General Information

Number of employees:

40

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
NA - 16	Ammonia (total)	N/A	N/A	N/A	N/A	tonnes
630-08-0	Carbon monoxide	23.8480	N/A	N/A	N/A	tonnes
67-63-0	Isopropyl alcohol	0.0060	N/A	N/A	N/A	tonnes
67-56-1	Methanol	0.1210	N/A	N/A	N/A	tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	6.5320	N/A	N/A	N/A	tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	9.7620	N/A	N/A	N/A	tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.8110	N/A	N/A	N/A	tonnes
7446-09-5	Sulphur dioxide	0.4610	N/A	N/A	N/A	tonnes
7664-93-9	Sulphuric acid	N/A	N/A	N/A	N/A	tonnes
NA - M16	Volatile Organic Compounds (VOCs)	90.7070	90.1630	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
NA - 16	Ammonia (total)	Yes	Yes		No
630-08-0	Carbon monoxide	Yes	Yes		No
67-63-0	Isopropyl alcohol	Yes	Yes		No
67-56-1	Methanol	Yes	Yes		No

CAS RN	Substance Name	NPRI	ON MOE TRA	ON MOE Reg 127/01	First report for this substance to the ON MOE TRA
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
7446-09-5	Sulphur dioxide	Yes	Yes		No
7664-93-9	Sulphuric acid	Yes	Yes		No
NA - M16	Volatile Organic Compounds (VOCs)	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
NA - 16	Ammonia (total)	No	No	No
67-63-0	Isopropyl alcohol	Yes	No	No
67-56-1	Methanol	Yes	Yes	No
7664-93-9	Sulphuric acid	No	No	No
NA - M16	Volatile Organic Compounds (VOCs)		No	Yes

### 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
NA - 16	Ammonia (total)	No	No	No
67-63-0	Isopropyl alcohol	No	No	No
67-56-1	Methanol	No	No	No
7664-93-9	Sulphuric acid	No	No	No
NA - M16	Volatile Organic Compounds (VOCs)			

### General Information about the Substance - Nature of Activities

CAS RN	Substance Name	Manufacture the Substance	Process the Substance	Otherwise Use of the Substance
NA - 16	Ammonia (total)			As a physical or chemical processing aid
67-63-0	Isopropyl alcohol		As a formulation component	
67-56-1	Methanol	As an impurity	As a formulation component	
7664-93-9	Sulphuric acid			As a physical or chemical processing aid
NA - M16	Volatile Organic Compounds (VOCs)			

### TRA Quantifications

CAS RN	Substance Name	Use, Creation, Contained	Quantity	Use ranges for public reporting
NA - 16	Ammonia (total)	Use	100.2 tonnes	Yes
NA - 16	Ammonia (total)	Creation	0 tonnes	No
NA - 16	Ammonia (total)	Contained	0 tonnes	No
630-08-0	Carbon monoxide	Use	0 tonnes	No
630-08-0	Carbon monoxide	Creation	23.848 tonnes	Yes
630-08-0	Carbon monoxide	Contained		
67-63-0	Isopropyl alcohol	Use	67.161 tonnes	Yes
67-63-0	Isopropyl alcohol	Creation	0 tonnes	No
67-63-0	Isopropyl alcohol	Contained	67.155 tonnes	Yes
67-56-1	Methanol	Use	357.4 tonnes	Yes
67-56-1	Methanol	Creation	8.3 tonnes	Yes
67-56-1	Methanol	Contained	357.3 tonnes	Yes
11104-93-1	Nitrogen oxides (expressed as NO2)	Use	0 tonnes	No
11104-93-1	Nitrogen oxides (expressed as NO2)	Creation	6.532 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	9.762 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	0.811 tonnes	Yes

CAS RN	Substance Name	Use, Creation, Contained	Quantity	Use ranges for public reporting
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Contained		
7446-09-5	Sulphur dioxide	Use	0 tonnes	No
7446-09-5	Sulphur dioxide	Creation	0.461 tonnes	Yes
7446-09-5	Sulphur dioxide	Contained		
7664-93-9	Sulphuric acid	Use	163.6 tonnes	Yes
7664-93-9	Sulphuric acid	Creation	0 tonnes	No
7664-93-9	Sulphuric acid	Contained	0 tonnes	No
NA - M16	Volatile Organic Compounds (VOCs)	Use	359.5 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Creation	90.163 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Contained		

## TRA Quantifications - VOC Breakdown List

CAS RN	Substance Name	Use, Creation, Contained	Quantity
64-17-5	Ethanol	Creation	90.085 tonnes
141-78-6	Ethyl acetate	Creation	0.078 tonnes
67-63-0	Isopropyl alcohol	Use	52.8 tonnes
67-56-1	Methanol	Use	282.7 tonnes

## TRA Quantifications - Total Speciated VOCs

Use, Creation, Contained	Quantity
Use	335.5 tonnes
Creation	90.163 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
NA - 16	Ammonia (total)					No
630-08-0	Carbon monoxide					No
67-63-0	Isopropyl alcohol					No
67-56-1	Methanol					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
7446-09-5	Sulphur dioxide					No
7664-93-9	Sulphuric acid					No
NA - M16	Volatile Organic Compounds (VOCs)					No

## On-site Releases - Releases to air

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
630-08-0	Carbon monoxide	Stack or Point Releases	O - Engineering Estimates		23.848 tonnes
67-63-0	Isopropyl alcohol	Storage or Handling Releases	O - Engineering Estimates		0.006 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	Stack or Point Releases	O - Engineering Estimates		6.532 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Stack or Point Releases	O - Engineering Estimates		1.94 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Storage or Handling Releases	E2 - Published Emission Factors		1.129 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Fugitive Releases	E2 - Published Emission Factors		0.204 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Other Non-point Releases	E2 - Published Emission Factors		6.489 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Stack or Point Releases	O - Engineering Estimates		0.523 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Storage or Handling Releases	O - Engineering Estimates		0.288 tonnes
7446-09-5	Sulphur dioxide	Stack or Point Releases	O - Engineering Estimates		0.461 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Stack or Point Releases	O - Engineering Estimates		0.408 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Storage or Handling Releases	O - Engineering Estimates		12.656 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Fugitive Releases	O - Engineering Estimates		2.162 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Non-point Releases	O - Engineering Estimates		75.481 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Sources - Speciated VOCs	NA - Not Applicable		90.707 tonnes

### On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
630-08-0	Carbon monoxide	23.848 tonnes
67-63-0	Isopropyl alcohol	0.006 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	6.532 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	9.762 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.811 tonnes
7446-09-5	Sulphur dioxide	0.461 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	90.707 tonnes

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

Category	CAS RN	Substance Name	Quantity
Other Sources - Speciated VOCs	64-17-5	Ethanol	90.085 tonnes
Other Sources - Speciated VOCs	141-78-6	Ethyl acetate	0.078 tonnes

### Total Quantity Released (All Media)

CAS RN	Substance Name	Category	Basis of Estimate	Detail Code	Quantity
67-56-1	Methanol	Total Quantity Released	O - Engineering Estimates		0.121 tonnes

### On-site Releases - Total

CAS RN	Substance Name	Total releases
67-63-0	Isopropyl alcohol	0.006 tonnes

### On-site Releases - Quarterly Breakdown of Annual Releases

CAS RN	Substance Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
67-63-0	Isopropyl alcohol	25	25	25	25
67-56-1	Methanol	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
7446-09-5	Sulphur dioxide	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 Previous Year	Comments (Disposals)
11104-93-1	Nitrogen oxides (expressed as NO2)	Pollution prevention activities	
630-08-0	Carbon monoxide	No significant change (i.e. < 10%) or no change	
67-56-1	Methanol	No significant change (i.e. < 10%) or no change	
67-63-0	Isopropyl alcohol	No significant change (i.e. < 10%) or no change	
7446-09-5	Sulphur dioxide	Pollution prevention activities	
7664-93-9	Sulphuric acid	No significant change (i.e. < 10%) or no change	
NA - 16	Ammonia (total)	No significant change (i.e. < 10%) or no change	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Pollution prevention activities	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Pollution prevention activities	
NA - M16	Volatile Organic Compounds (VOCs)	No significant change (i.e. < 10%) or no change	

## Disposals - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Disposed	Reasons for Changes in Quantities Disposed from Previous Year	Comments (Disposals)
67-56-1	Methanol		No significant change (i.e. < 10%) or no change	
67-63-0	Isopropyl alcohol		No significant change (i.e. < 10%) or no change	
7664-93-9	Sulphuric acid		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
67-56-1	Methanol		No significant change (i.e. < 10%) or no change	
67-63-0	Isopropyl alcohol		No significant change (i.e. < 10%) or no change	
7664-93-9	Sulphuric acid		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
NA - 16	Ammonia (total)	No	Enters the facility (Use)	100.2 tonnes	128.5 tonnes	2014	-28.3	-22.02
NA - 16	Ammonia (total)	No	Creation	0 tonnes	0 tonnes	2014	0	
NA - 16	Ammonia (total)	No	Contained	0 tonnes	0 tonnes	2014	0	
630-08-0	Carbon monoxide	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
630-08-0	Carbon monoxide	No	Creation	23.848 tonnes	26.291 tonnes	2014	-2.443	-9.29
67-63-0	Isopropyl alcohol	No	Enters the facility (Use)	67.161 tonnes	67.161 tonnes	2014	0.000	0
67-63-0	Isopropyl alcohol	No	Creation	0 tonnes	0 tonnes	2014	0	
67-63-0	Isopropyl alcohol	No	Contained	67.155 tonnes	67.155 tonnes	2014	0.000	0
67-56-1	Methanol	No	Enters the facility (Use)	357.4 tonnes	351.4 tonnes	2014	6.0	1.71
67-56-1	Methanol	No	Creation	8.3 tonnes	8.299 tonnes	2014	0.001	0.01
67-56-1	Methanol	No	Contained	357.3 tonnes	351.3 tonnes	2014	6.0	1.71
67-56-1	Methanol	Yes	Enters the facility (Use)	282.7 tonnes	351.4 tonnes	2014	-68.7	-19.55
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	6.532 tonnes	9.02 tonnes	2014	-2.488	-27.58
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	9.762 tonnes	11.352 tonnes	2014	-1.590	-14.01
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	0.811 tonnes	1.134 tonnes	2014	-0.323	-28.48
7446-09-5	Sulphur dioxide	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
7446-09-5	Sulphur dioxide	No	Creation	0.461 tonnes	1.485 tonnes	2014	-1.024	-68.96
7664-93-9	Sulphuric acid	No	Enters the facility (Use)	163.6 tonnes	248.6 tonnes	2014	-85.0	-34.19
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	

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

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - 16	Ammonia (total)	Implementation of toxics reduction option(s)	
630-08-0	Carbon monoxide	No reasons - quantities approximately the same	
67-63-0	Isopropyl alcohol	No reasons - quantities approximately the same	
67-56-1	Methanol	No reasons - quantities approximately the same	
11104-93-1	Nitrogen oxides (expressed as NO2)	Implementation of toxics reduction option(s)	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Implementation of actions outside of toxics reduction plan	

CAS RN	Substance Name	Reason(s) for Change	Other Reason
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Implementation of actions outside of toxics reduction plan	
7446-09-5	Sulphur dioxide	Implementation of actions outside of toxics reduction plan	
7664-93-9	Sulphuric acid	Implementation of toxics reduction option(s)	
NA - M16	Volatile Organic Compounds (VOCs)	Decrease in production levels	

## Comparison Report - On-site Releases

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 Air	23.848 tonnes	26.291 tonnes	2014	-2.443	-9.29
630-08-0	Carbon monoxide	No	Total Releases to Water	0 tonnes	0 tonnes	2014	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	2014	0	
64-17-5	Ethanol	Yes	Total Releases to Air	90.085 tonnes	89.766 tonnes	2014	0.319	0.36
141-78-6	Ethyl acetate	Yes	Total Releases to Air	0.078 tonnes	0.209 tonnes	2014	-0.131	-62.68
67-63-0	Isopropyl alcohol	No	Total Releases to Air	0.006 tonnes	0.006 tonnes	2014	0.000	0
67-63-0	Isopropyl alcohol	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
67-63-0	Isopropyl alcohol	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
67-63-0	Isopropyl alcohol	No	Total Releases to All Media	0 tonnes				
67-56-1	Methanol	No	Total Releases to Air	0 tonnes				
67-56-1	Methanol	No	Total Releases to Water	0 tonnes				
67-56-1	Methanol	No	Total Releases to Land	0 tonnes				
67-56-1	Methanol	No	Total Releases to All Media	0.121 tonnes	0.122 tonnes	2014	-0.001	-0.82
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Air	6.532 tonnes	9.02 tonnes	2014	-2.488	-27.58
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				
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Air	9.762 tonnes	11.352 tonnes	2014	-1.590	-14.01
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				
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Air	0.811 tonnes	1.134 tonnes	2014	-0.323	-28.48
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				
7446-09-5	Sulphur dioxide	No	Total Releases to Air	0.461 tonnes	1.485 tonnes	2014	-1.024	-68.96
7446-09-5	Sulphur dioxide	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
7446-09-5	Sulphur dioxide	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
7446-09-5	Sulphur dioxide	No	Total Releases to All Media	0 tonnes				

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

CAS RN	Substance Name	Reason(s) for Change	Other Reason
630-08-0	Carbon monoxide	No reasons - quantities approximately the same	

CAS RN	Substance Name	Reason(s) for Change	Other Reason
67-63-0	Isopropyl alcohol	No reasons - quantities approximately the same	
67-56-1	Methanol	No reasons - quantities approximately the same	
11104-93-1	Nitrogen oxides (expressed as NO2)	Implementation of toxics reduction option(s)	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Implementation of actions outside of toxics reduction plan	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Implementation of actions outside of toxics reduction plan	
7446-09-5	Sulphur dioxide	Implementation of actions outside of toxics reduction plan	
NA - M16	Volatile Organic Compounds (VOCs)	Other	Emission remodeling completed.

## 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 for 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
NA - 16	Ammonia (total)	GFSa Tiverton intends to reduce the use of ammonia as a nutrient and for pH control during the fermentation process.
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 Tiverton 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 Tiverton 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 use or creation of Ethyl Acetate. Even though GFSa Tiverton Facility has decided not to implement any reduction options at this time it will revisit it in the future. Ethyl Acetate is used to denature ethyl alcohol as per Canada Revenue Agency (Excise) requirements and is marketed as a product, as well, ethyl acetate is created in the fermentation process.
67-63-0	Isopropyl alcohol	It has been determined that it is not technically and economically feasible at this time to reduce the use of Isopropyl Alcohol. Even though GFSa Tiverton Facility has decided not to implement any reduction options at this time it will revisit it in the future. Isopropyl Alcohol is used to denature ethyl alcohol as per Canada Revenue Agency (Excise) requirements and is marketed as a product.
67-56-1	Methanol	GFE Tiverton intends to reduce the use of methanol as a denaturant in our ethyl alcohol by 10% over a 5 year period.
11104-93-1	Nitrogen oxides (expressed as NO2)	GFSa Tiverton Facility intends to reduce the creation of nitrogen oxides by minimizing the combustion of furnace oil through improved inventory management.
NA - M09	PM10 - Particulate Matter <= 10 Microns	While GFSa Tiverton Facility does not intend to reduce the creation of PM 10 Particulate Matter at the present time, any opportunities for reduction will be reviewed and considered. Leak prevention programs are in place to minimize particulate matter.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	It has been determined that it is not technically and economically feasible at this time to reduce the creation of PM2.5. While GFSa Tiverton Facility does not intend to reduce the creation of PM 2.5 Particulate Matter at the present time, any opportunities for reduction will be reviewed and considered. Leak prevention programs are in place to minimize particulate matter.
7446-09-5	Sulphur dioxide	It has been determined that it is not technically and economically feasible at this time to reduce the creation of sulphur dioxide. Even though GFSa Tiverton Facility has decided not to implement any reduction options at this time it will revisit it in the future.
7664-93-9	Sulphuric acid	GFSa, Tiverton Facility intends to reduce the use of sulphuric acid.

## Progress on TRA Plan - Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 16	Ammonia (total)	No quantity target	No timeline target	
630-08-0	Carbon monoxide	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	
67-63-0	Isopropyl alcohol	No quantity target	No timeline target	



CAS RN	Substance Name	Quantity	Years	Description of Target
67-56-1	Methanol	33.2 tonnes	5	Reduce the usage of methanol as a denaturant in our ethyl alcohol over a five year period.
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	
7446-09-5	Sulphur dioxide	No quantity target	No timeline target	
7664-93-9	Sulphuric acid	No quantity target	No timeline target	

### Progress on TRA Plan - Description

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 16	Ammonia (total)	No quantity target	No timeline target	
630-08-0	Carbon monoxide	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	
67-63-0	Isopropyl alcohol	No quantity target	No timeline target	
67-56-1	Methanol	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	
7446-09-5	Sulphur dioxide	No quantity target	No timeline target	
7664-93-9	Sulphuric acid	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
NA - 16	Ammonia (total)	Other	Automatic titrator was put into place to have better control over ammonia usage.	Automatic titrator was put into place to have better control over ammonia usage.	Automatic titrator introduced as per schedule.	Automatic titrator was put into place to have better control over ammonia usage.
NA - 16	Ammonia (total)	Substituted materials	Introduction of a new enzyme that results in less use of ammonia. Automatic titrator was put into operation giving better control over ammonia usage.	Introduction of a new enzyme that results in less use of ammonia. Automatic titrator was put into operation giving better control over ammonia usage.	Introduction of a new enzyme that results in less use of ammonia and the automatic titrator as per schedule.	Introduction of a new enzyme that results in less use of ammonia. Automatic titrator was put into operation giving better control over ammonia usage.
67-56-1	Methanol	Modified design or composition	- Continue to work with the Canada Revenue Agency (Excise) to develop denaturant formulations requiring a decreased amount of methanol	- Continue to work with the Canada Revenue Agency (Excise) to develop denaturant formulations requiring a decreased amount of methanol	Ongoing communication with Excise Canada to develop a formula requiring a decreased amount of methanol.	- Continue to work with the Canada Revenue Agency (Excise) to develop denaturant formulations requiring a decreased amount of methanol
11104-93-1	Nitrogen oxides (expressed as NO2)	Other	Very close monitoring of natural gas inventory and close communication with our transport company.	Very close monitoring of natural gas inventory and close communication with our transport company.	Very close monitoring of natural gas inventory and close communication with our transport company.	Very close monitoring of natural gas inventory and close communication with our transport company.
7664-93-9	Sulphuric acid	Modified equipment, layout or piping	New pump and flow meter installed for better control of sulphuric acid addition to the process. A new enzyme has also been put into use which requires less sulphuric acid.	New pump and flow meter installed for better control of sulphuric acid addition to the process. A new enzyme has also been put into place which requires less sulphuric acid.	New pump and flow meter installed as per schedule. New enzyme usage ongoing.	New pump and flow meter installed for better control of sulphuric acid addition to the process. A new enzyme has also been put into place which requires less sulphuric acid.

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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
NA - 16	Ammonia (total)	Other	The amount of reduction in <b>use</b> of the substance at the facility during the reporting period that resulted due to the steps described:	28.33 tonnes
NA - 16	Ammonia (total)	Other	The amount of reduction in <b>creation</b> 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 <b>contained in product</b> 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 <b>release to air</b> 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 <b>release to water</b> 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 <b>release to land</b> of the substance at the facility during the reporting period that resulted due to steps described:	No Amount



CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
67-56-1	Methanol	Modified design or composition	The amount of reduction in <b>use</b> of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in <b>creation</b> of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in the substance <b>contained in product</b> at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in <b>release to air</b> of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in <b>release to water</b> of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in <b>release to land</b> of the substance at the facility during the reporting period that resulted due to steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in the substance <b>disposed on-site</b> (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in the substance <b>disposed off-site</b> (including tailings and waste rocks) at the facility during the reporting period that resulted due to the steps described:	No Amount
67-56-1	Methanol	Modified design or composition	The amount of reduction in the substance <b>recycled off-site</b> at the facility during the reporting period that resulted due to the steps described:	No Amount

## 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
NA - 16	Ammonia (total)	No		
630-08-0	Carbon monoxide	No		
64-17-5	Ethanol	No		
141-78-6	Ethyl acetate	No		
67-63-0	Isopropyl alcohol	No		
67-56-1	Methanol	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		
7446-09-5	Sulphur dioxide	No		
7664-93-9	Sulphuric acid	No		

## Progress on TRA Plan - Reductions due to additional actions taken

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
NA - 16	Ammonia (total)	The amount of reduction in <b>use</b> 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 <b>creation</b> 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 <b>contained in product</b> at the facility during the reporting period that resulted due to the additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in <b>release to air</b> 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 <b>release to water</b> 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 <b>release to land</b> of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 16	Ammonia (total)	The amount of reduction in the substance <b>disposed on-site</b> (including tailings and waste rocks) 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 <b>disposed off-site</b> (including tailings and waste rocks) 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 <b>recycled off-site</b> at the facility during the reporting period that resulted due to the additional actions.	
630-08-0	Carbon monoxide	The amount of reduction in <b>use</b> of the substance at the facility during the reporting period that resulted due to the additional actions.	
630-08-0	Carbon monoxide	The amount of reduction in <b>creation</b> of the substance at the facility during the reporting period that resulted due to the additional actions.	
630-08-0	Carbon monoxide	The amount of reduction in the substance <b>contained in product</b> at the facility during the reporting period that resulted due to the additional actions.	





CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
7446-09-5	Sulphur dioxide	The amount of reduction in the substance <b>disposed on-site</b> (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7446-09-5	Sulphur dioxide	The amount of reduction in the substance <b>disposed off-site</b> (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7446-09-5	Sulphur dioxide	The amount of reduction in the substance <b>recycled off-site</b> at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in <b>use</b> of the substance at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in <b>creation</b> of the substance at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in the substance <b>contained in product</b> at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in <b>release to air</b> of the substance at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in <b>release to water</b> of the substance at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in <b>release to land</b> of the substance at the facility during the reporting period that resulted due to additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in the substance <b>disposed on-site</b> (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in the substance <b>disposed off-site</b> (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in the substance <b>recycled off-site</b> 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
NA - 16	Ammonia (total)	No		
630-08-0	Carbon monoxide	No		
64-17-5	Ethanol	No		
141-78-6	Ethyl acetate	No		
67-63-0	Isopropyl alcohol	No		
67-56-1	Methanol	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		
7446-09-5	Sulphur dioxide	No		
7664-93-9	Sulphuric acid	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)

Report Submitted by

James Murr

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 31/05/2016, I, James Murr, 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
NA - 16	Ammonia (total)
630-08-0	Carbon monoxide
11104-93-1	Nitrogen oxides (expressed as NO2)
67-56-1	Methanol
67-63-0	Isopropyl alcohol
7446-09-5	Sulphur dioxide
7664-93-9	Sulphuric acid
NA - M09	PM10 - Particulate Matter <= 10 Microns
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns
NA - M16	Volatile Organic Compounds (VOCs)

Company Name

GreenField Specialty Alcohols Inc.

Highest Ranking Employee

James Murr

Report Submitted by

James Murr

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	31/05/2016	Tiverton Plant	Ontario	Tiverton	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.

Version: 3.10.0


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