Report Preview

Report Details

Report Year	2018
Report Type:	NPRI,ON MECP TRA
Report Status:	Submitted
Modified Date/Time:	2019-05-29 1:51 PM

Company and Facility Details

Company Name:	Greenfield Global Inc.
Business Number:	130336852
Mailing Address:	Address Line 1: 6985 Financial Drive City, Province/Territory, Postal Code: Mississauga Ontario L5N 0G3 Country: Canada
Facility Name:	Tiverton
NAICS Code:	325190
NPRI ID:	209
Portable:	No
Physical Address:	Address Line 1: 99 Farrell Drive City, Province/Territory, Postal Code: Tiverton Ontario N0G 2T0 Country: Canada Latitude: 44.3193 Longitude: -81.5657

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:	EH&S Manager
Telephone:	5193687723
Extension	7928
Fax:	5193687016

Email:	dianne.schenk@greenfield.com
Contact Type	Highest Ranking Employee, Public Contact
Name:	James Murr
Position:	Plant Manager
Telephone:	5193687723
Extension	7931
Fax:	5193687016
Email:	jim.murr@gfsa.com

General Information

Number of employees:	42
Activities for Which the 20,000-Hour Employee Threshold Does Not Apply:	None of the above
Activities Relevant to Reporting Dioxins, Furans and Hexacholorobenzene:	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	22.8490	N/A	N/A	N/A	tonnes
67-63-0	Isopropyl alcohol	0.0056	N/A	N/A	N/A	tonnes
67-56-1	Methanol	0.1190	N/A	N/A	N/A	tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	6.2230	N/A	N/A	N/A	tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	10.2030	N/A	N/A	N/A	tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.7090	N/A	N/A	N/A	tonnes
7446-09-5	Sulphur dioxide	0.3330	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)	65.9760	65.7040	N/A	N/A	tonnes

Applicable Programs

CAS RN	Substance Name	NPRI	ON MECP TRA	ON MECP Reg 127/01	First report for this substance to the ON MECP 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
11104-93-1	Nitrogen oxides (expressed as NO2)	Yes	Yes		No

CAS RN	Substance Name	NPRI	ON MECP TRA	ON MECP Reg 127/01	First report for this substance to the ON MECP TRA
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 in Product	Quantity	Use ranges for public reporting
NA - 16	Ammonia (total)	Use	86.310 tonnes	Yes
NA - 16	Ammonia (total)	Creation	0 tonnes	No
NA - 16	Ammonia (total)	Contained in Product	0 tonnes	No
630-08-0	Carbon monoxide	Use	0 tonnes	No
630-08-0	Carbon monoxide	Creation	22.849 tonnes	Yes
630-08-0	Carbon monoxide	Contained in Product		
67-63-0	Isopropyl alcohol	Use	94.5 tonnes	Yes
67-63-0	Isopropyl alcohol	Creation	0 tonnes	No
67-63-0	Isopropyl alcohol	Contained in Product	94.49 tonnes	Yes
67-56-1	Methanol	Use	388.431 tonnes	Yes
67-56-1	Methanol	Creation	7.9 tonnes	Yes
67-56-1	Methanol	Contained in Product	388.3 tonnes	Yes
11104-93-1	Nitrogen oxides (expressed as NO2)	Use	0 tonnes	No
11104-93-1	Nitrogen oxides (expressed as NO2)	Creation	6.223 tonnes	Yes
11104-93-1	Nitrogen oxides (expressed as NO2)	Contained in Product		
NA - M09	PM10 - Particulate Matter <= 10 Microns	Use	0 tonnes	No
NA - M09	PM10 - Particulate Matter <= 10 Microns	Creation	10.203 tonnes	Yes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Contained in Product		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Use	0 tonnes	No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Creation	0.709 tonnes	Yes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Contained in Product		

CAS RN	Substance Name	Use, Creation, Contained in Product	Quantity	Use ranges for public reporting
7446-09-5	Sulphur dioxide	Use	0 tonnes	No
7446-09-5	Sulphur dioxide	Creation	0.333 tonnes	Yes
7446-09-5	Sulphur dioxide	Contained in Product		
7664-93-9	Sulphuric acid	Use	244.350 tonnes	Yes
7664-93-9	Sulphuric acid	Creation	0 tonnes	No
7664-93-9	Sulphuric acid	Contained in Product	0 tonnes	No
NA - M16	Volatile Organic Compounds (VOCs)	Use	488.922 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Creation	65.585 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Contained in Product		

TRA Quantifications - VOC Breakdown List

CAS RN	Substance Name	Use, Creation, Contained in Product	Quantity
64-17-5	Ethanol	Creation	65.535 tonnes
141-78-6	Ethyl acetate	Use	62.729 tonnes
141-78-6	Ethyl acetate	Creation	0.05 tonnes
67-63-0	Isopropyl alcohol	Use	94.491 tonnes
67-56-1	Methanol	Use	388.431 tonnes

TRA Quantifications - Total Speciated VOCs

Use, Creation, Contained in Product	Quantity
Use	545.651 tonnes
Creation	65.585 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	Description of how an incident(s) affected quantifications	Significant Process Change	Reason for the 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		22.849 tonnes
67-63-0	Isopropyl alcohol	Storage or Handling Releases	O - Engineering Estimates		0.0056 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	Stack or Point Releases	O - Engineering Estimates		6.223 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Stack or Point Releases	O - Engineering Estimates		0.865 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Storage or Handling Releases	E2 - Published Emission Factors		2.448 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Fugitive Releases	E2 - Published Emission Factors		0 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Other Non-point Releases	E2 - Published Emission Factors		6.890 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Stack or Point Releases	O - Engineering Estimates		0.457 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Storage or Handling Releases	O - Engineering Estimates		0.252 tonnes
7446-09-5	Sulphur dioxide	Stack or Point Releases	O - Engineering Estimates		0.333 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Stack or Point Releases	O - Engineering Estimates		61.167 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Storage or Handling Releases	O - Engineering Estimates		2.299 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Fugitive Releases	O - Engineering Estimates		2.510 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Sources - Speciated VOCs	NA - Not Applicable		65.976 tonnes

On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
630-08-0	Carbon monoxide	22.849 tonnes
67-63-0	Isopropyl alcohol	0.0056 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	6.223 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	10.203 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.709 tonnes
7446-09-5	Sulphur dioxide	0.333 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	65.976 tonnes

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

Category	CAS RN	Substance Name	Quantity
Other Sources - Speciated VOCs	64-17-5	Ethanol	65.535 tonnes
Other Sources - Speciated VOCs	141-78-6	Ethyl acetate	0.05 tonnes
Other Sources - Speciated VOCs	67-56-1	Methanol	0.119 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		0.119 tonnes

On-site Releases - Total

CAS RN	Substance Name	Total releases
67-63-0	Isopropyl alcohol	0.0056 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 from Previous Year	Comments
11104-93-1	Nitrogen oxides (expressed as NO2)	Decrease in production levels	
630-08-0	Carbon monoxide	Decrease in production levels	
67-56-1	Methanol	Decrease in production levels	
67-63-0	Isopropyl alcohol	No significant change (i.e. <10% or no change)	
7446-09-5	Sulphur dioxide	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)	No on-site releases.
NA - M09	PM10 - Particulate Matter <= 10 Microns	No significant change (i.e. <10% or no change)	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No significant change (i.e. <10% or no change)	

CAS RN	Substance Name	Reasons for Changes in Quantities from Previous Year	Comments
NA - M16	Volatile Organic Compounds (VOCs)	Decrease in production levels	

Disposals - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Disposed	Reasons for Changes in Quantities from Previous Year	Comments
67-56-1	Methanol		No significant change (i.e. <10% or no change)	No disposals.
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)	No disposals.

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)	Consumed in process, no recycling.

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)	86.310 tonnes	98.016 tonnes	2017	-11.706	-11.94
NA - 16	Ammonia (total)	No	Creation	0 tonnes	0 tonnes	2017	0	
NA - 16	Ammonia (total)	No	Contained in Product	0 tonnes	0 tonnes	2017	0	
630-08-0	Carbon monoxide	No	Enters the facility (Use)	0 tonnes	0 tonnes	2017	0	
630-08-0	Carbon monoxide	No	Creation	22.849 tonnes	23.915 tonnes	2017	-1.066	-4.46
64-17-5	Ethanol	Yes	Creation	65.535 tonnes	92.758 tonnes	2017	-27.223	-29.35
141-78-6	Ethyl acetate	Yes	Creation	0.05 tonnes	0.08 tonnes	2017	-0.03	-37.50
67-63-0	Isopropyl alcohol	No	Enters the facility (Use)	94.5 tonnes	89.9 tonnes	2017	4.6	5.12
67-63-0	Isopropyl alcohol	No	Creation	0 tonnes	0 tonnes	2017	0	
67-63-0	Isopropyl alcohol	No	Contained in Product	94.49 tonnes	89.84 tonnes	2017	4.65	5.18
67-63-0	Isopropyl alcohol	Yes	Enters the facility (Use)	94.491 tonnes	89.92 tonnes	2017	4.571	5.08
67-56-1	Methanol	No	Enters the facility (Use)	388.431 tonnes	302.14 tonnes	2017	86.291	28.56
67-56-1	Methanol	No	Creation	7.9 tonnes	8.5 tonnes	2017	-0.6	-7.06
67-56-1	Methanol	No	Contained in Product	388.3 tonnes	301.9 tonnes	2017	86.4	28.62
67-56-1	Methanol	Yes	Enters the facility (Use)	388.431 tonnes	302.136 tonnes	2017	86.295	28.56
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Enters the facility (Use)	0 tonnes	0 tonnes	2017	0	
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Creation	6.223 tonnes	6.514 tonnes	2017	-0.291	-4.47
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2017	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Creation	10.203 tonnes	10.099 tonnes	2017	0.104	1.03
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2017	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Creation	0.709 tonnes	0.761 tonnes	2017	-0.052	-6.83
7446-09-5	Sulphur dioxide	No	Enters the facility (Use)	0 tonnes	0 tonnes	2017	0	
7446-09-5	Sulphur dioxide	No	Creation	0.333 tonnes	0.344 tonnes	2017	-0.011	-3.20
7664-93-9	Sulphuric acid	No	Enters the facility (Use)	244.350 tonnes	194.908 tonnes	2017	49.442	25.37
7664-93-9	Sulphuric acid	No	Creation	0 tonnes	0 tonnes	2017	0	
7664-93-9	Sulphuric acid	No	Contained in Product	0 tonnes	0 tonnes	2017	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	Decrease in production levels	
67-63-0	Isopropyl alcohol	No reasons - quantities approximately the same	
67-56-1	Methanol	Other	Increase in volumes of shipments denatured with methanol, which is a requirement by Excise Canada.
11104-93-1	Nitrogen oxides (expressed as NO2)	Decrease in production levels	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No reasons - quantities approximately the same	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No reasons - quantities approximately the same	
7446-09-5	Sulphur dioxide	No reasons - quantities approximately the same	
7664-93-9	Sulphuric acid	Other	Required to maintain control of process as trials to reduce one substance caused increase in another.
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	22.849 tonnes	23.915 tonnes	2017	-1.066	-4.46
630-08-0	Carbon monoxide	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
630-08-0	Carbon monoxide	No	Total Releases to Land	0 tonnes	0 tonnes	2017	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	65.535 tonnes	92.758 tonnes	2017	-27.223	-29.35
141-78-6	Ethyl acetate	Yes	Total Releases to Air	0.05 tonnes	0.08 tonnes	2017	-0.03	-37.50
67-63-0	Isopropyl alcohol	No	Total Releases to Air	0.0056 tonnes	0.0058 tonnes	2017	-0.0002	-3.45
67-63-0	Isopropyl alcohol	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
67-63-0	Isopropyl alcohol	No	Total Releases to Land	0 tonnes	0 tonnes	2017	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	0.119 tonnes	0.121 tonnes	2017	-0.002	-1.65
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Air	6.223 tonnes	6.514 tonnes	2017	-0.291	-4.47
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
11104-93-1	Nitrogen oxides (expressed as NO2)	No	Total Releases to Land	0 tonnes	0 tonnes	2017	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	10.203 tonnes	10.177 tonnes	2017	0.026	0.26
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2017	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	0.709 tonnes	0.761 tonnes	2015	-0.052	-6.83
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2017	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	0.333 tonnes	0.344 tonnes	2017	-0.011	-3.20
7446-09-5	Sulphur dioxide	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
7446-09-5	Sulphur dioxide	No	Total Releases to Land	0 tonnes	0 tonnes	2017	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	Decrease in production levels	
67-63-0	Isopropyl alcohol	No reasons - quantities approximately the same	
67-56-1	Methanol	Decrease in production levels	
11104-93-1	Nitrogen oxides (expressed as NO2)	Decrease in production levels	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No reasons - quantities approximately the same	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No reasons - quantities approximately the same	
7446-09-5	Sulphur dioxide	No reasons - quantities approximately the same	
NA - M16	Volatile Organic Compounds (VOCs)	Decrease in production levels	

Pollution Prevention

Does the facility have a documented pollution prevention plan?	Yes
a) Please check all that apply	Plan was prepared or implemented for another government jurisdiction (i.e. other Federal government department, province, municipality). 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 (provide the name of the primary Substances in the comments field below)
Please summarize your pollution prevention plan. If you selected "Substances", please specify the substances that were addressed in your plan (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.

CAS RN	Substance Name	Objectives
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	GFE, Tiverton Facility intends to reduce the use of sulphuric acid by 10% over a 7 year period.

Progress on TRA Plan - Use Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
NA - 16	Ammonia (total)	1.2 tonnes	3	Trialing of various enzymes requires a target that allows for a time period to ensure no impact in other areas.
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	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	33.4 tonnes	7	- Installation of new pump and flow meter for more accurate and consistent sulphuric acid delivery - Work with enzyme vendor for development of enzyme that requires less sulphuric acid to aid in pH control

Progress on TRA Plan - Creation 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	
67-56-1	Methanol	No quantity target	No timeline target	
11104-93-1	Nitrogen oxides (expressed as NO2)	0.21 tonnes	1.0	Focus on improving inventory management.
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	The equipment stated in our plan was operating throughout the course of this reporting period.	The equipment stated in our plan was operating throughout the course of this reporting period.	This part of the plan was completed a couple of years ago.	This part of the plan was completed a couple of years ago.
NA - 16	Ammonia (total)	Substituted materials	Throughout this reporting period there were various trials with different enzymes and conditions in order to try and reduce the use of ammonia.	Throughout this reporting period there were various trials with different enzymes and conditions in order to try and reduce the use of ammonia.	As per our plan we will continue to test new enzymes as they are developed to continue to reduce the amount of ammonia usage. We have already surpassed our target.	As per our plan we will continue to test new enzymes as they are developed to continue to reduce the amount of ammonia usage. We have already surpassed our target.
67-56-1	Methanol	Modified design or composition	Continued to determine if Revenue Canada would revise the formula for methanol addition to our ethanol as a denaturant following	Continued to determine if Revenue Canada would revise the formula for methanol addition to our ethanol as a denaturant following	Continue to work with Revenue Canada to revise the formula for methanol addition to our	Continue to work with Revenue Canada to revise the formula for methanol addition to our

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
			their requirements.	their requirements.	ethanol.	ethanol.
11104-93-1	Nitrogen oxides (expressed as NO2)	Other	Continued monitoring of natural gas inventory to ensure a safe level is maintained therefore reducing the use of #2 oil.	Continued monitoring of natural gas inventory to ensure a safe level is maintained therefore reducing the use of #2 oil.	Closely monitoring our natural gas inventory was on schedule with our plan.	Closely monitoring our natural gas inventory was on schedule with our plan.
7664-93-9	Sulphuric acid	Modified equipment, layout or piping	This project was completed three years ago and continues to operate effectively.	This project was completed three years ago and continues to operate effectively.	This project was completed three years ago as per our plan schedule.	This project was completed three years ago as per our plan schedule.
7664-93-9	Sulphuric acid	Modified design or composition	We continue to use the enzyme that we determined was successful at reducing the amount of sulphuric acid required. We continue to research the development of new enzymes that we could utilize to further reduce sulphuric acid.	We continue to use the enzyme that we determined was successful at reducing the amount of sulphuric acid required. We continue to research the development of new enzymes that we could utilize to further reduce sulphuric acid.	The new enzyme was implemented as per our plan resulting in a reduction of the use of sulphuric acid.	The new enzyme was implemented as per our plan resulting in a reduction of the use of sulphuric acid.

CAS RN	Substance Name	Activity	Will the timelines in the current version of the plan will be met	Comments:
NA - 16	Ammonia (total)	Other	Yes	
NA - 16	Ammonia (total)	Substituted materials	Yes	
67-56-1	Methanol	Modified design or composition	No	Continue to work at changing the usage of methanol as a denaturant.
11104-93-1	Nitrogen oxides (expressed as NO2)	Other	Yes	Target reduction has been met and exceeded.
7664-93-9	Sulphuric acid	Modified equipment, layout or piping	Yes	We have surpassed our planned reduction target.
7664-93-9	Sulphuric acid	Modified design or composition	Yes	

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 **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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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
7664-93-9	Sulphuric acid	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

Progress on TRA Plan - Reductions due to Options Implemented - Improved inventory management or purchasing

techniques

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	Other	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the steps described:	0.291 tonnes
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	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
11104-93-1	Nitrogen oxides (expressed as NO2)	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

Progress on TRA Plan - Reductions due to Options Implemented - Materials or feedstock substitution

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
NA - 16	Ammonia (total)	Substituted materials	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the steps described:	11.706 tonnes
NA - 16	Ammonia (total)	Substituted materials	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)	Substituted materials	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)	Substituted materials	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)	Substituted materials	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)	Substituted materials	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)	Substituted materials	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)	Substituted materials	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)	Substituted materials	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

Progress on TRA Plan - Reductions due to Options Implemented - Product design or reformulation

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
67-56-1	Methanol	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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
7664-93-9	Sulphuric acid	Modified design or composition	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

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 **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.	
NA - 16	Ammonia (total)	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.	
NA - 16	Ammonia (total)	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.	
NA - 16	Ammonia (total)	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
630-08-0	Carbon monoxide	The amount of reduction in **use** 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 **creation** 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 **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
630-08-0	Carbon monoxide	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.	
630-08-0	Carbon monoxide	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.	
630-08-0	Carbon monoxide	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
630-08-0	Carbon monoxide	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.	
630-08-0	Carbon monoxide	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.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
630-08-0	Carbon monoxide	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
64-17-5	Ethanol	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
64-17-5	Ethanol	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
64-17-5	Ethanol	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
64-17-5	Ethanol	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.	
64-17-5	Ethanol	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.	
64-17-5	Ethanol	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
64-17-5	Ethanol	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.	
64-17-5	Ethanol	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.	
64-17-5	Ethanol	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
141-78-6	Ethyl acetate	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
141-78-6	Ethyl acetate	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
141-78-6	Ethyl acetate	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
141-78-6	Ethyl acetate	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.	
141-78-6	Ethyl acetate	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.	
141-78-6	Ethyl acetate	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
141-78-6	Ethyl acetate	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.	
141-78-6	Ethyl acetate	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.	
141-78-6	Ethyl acetate	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
67-63-0	Isopropyl alcohol	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
67-63-0	Isopropyl alcohol	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
67-63-0	Isopropyl alcohol	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
67-63-0	Isopropyl alcohol	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.	
67-63-0	Isopropyl alcohol	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.	
67-63-0	Isopropyl alcohol	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
67-63-0	Isopropyl alcohol	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.	
67-63-0	Isopropyl alcohol	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.	
67-63-0	Isopropyl alcohol	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
67-56-1	Methanol	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
67-56-1	Methanol	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
67-56-1	Methanol	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
67-56-1	Methanol	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.	
67-56-1	Methanol	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.	
67-56-1	Methanol	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
67-56-1	Methanol	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.	
67-56-1	Methanol	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.	
67-56-1	Methanol	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
11104-93-	Nitrogen oxides	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
1	(expressed as NO2)	the additional actions.	
11104-93-1	Nitrogen oxides (expressed as NO2)	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
11104-93-1	Nitrogen oxides (expressed as NO2)	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
11104-93-1	Nitrogen oxides (expressed as NO2)	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.	
11104-93-1	Nitrogen oxides (expressed as NO2)	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.	
11104-93-1	Nitrogen oxides (expressed as NO2)	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
11104-93-1	Nitrogen oxides (expressed as NO2)	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.	
11104-93-1	Nitrogen oxides (expressed as NO2)	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.	
11104-93-1	Nitrogen oxides (expressed as NO2)	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 - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	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.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	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.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **creation** of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
7446-09-5	Sulphur dioxide	The amount of reduction in **use** of the substance at the facility during the reporting period that resulted due to the additional actions.	
7446-09-5	Sulphur dioxide	The amount of reduction in **creation** of the substance 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 **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
7446-09-5	Sulphur dioxide	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.	
7446-09-5	Sulphur dioxide	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.	
7446-09-5	Sulphur dioxide	The amount of reduction in **release to land** of the substance at the facility during the reporting period that resulted due to additional actions.	
7446-09-5	Sulphur dioxide	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.	
7446-09-5	Sulphur dioxide	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.	
7446-09-5	Sulphur dioxide	The amount of reduction in the substance **recycled off-site** at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	The amount of reduction in **use** 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 **creation** of the substance 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
7664-93-9	Sulphuric acid	The amount of reduction in the substance **contained in product** at the facility during the reporting period that resulted due to the additional actions.	
7664-93-9	Sulphuric acid	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.	
7664-93-9	Sulphuric acid	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.	
7664-93-9	Sulphuric acid	The amount of reduction in **release to land** 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 **disposed on-site** (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 **disposed off-site** (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 **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
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 Global Inc.

Certifying Official (or authorized delegate)

Dianne Schenk

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 MECP TRA - Electronic Certification Statement

Annual Report Certification Statement

As of 2019-05-29, 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
64-17-5	Ethanol
141-78-6	Ethyl acetate
67-63-0	Isopropyl alcohol
67-56-1	Methanol
11104-93-1	Nitrogen oxides (expressed as NO2)
NA - M09	PM10 - Particulate Matter <= 10 Microns
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns
7446-09-5	Sulphur dioxide
7664-93-9	Sulphuric acid

*Due to reporting system limitations, for the 2018 annual report the TRA Substance List may included new Volatile Organic Compounds (VOCs) and/or Dioxins and Furans congeners reported to NPRI only.

Company Name

Greenfield Global 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
2018	2019-05-29	Tiverton	Ontario	Tiverton	NPRI,ON MECP 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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