National Pollutant Release Inventory (NPRI) and Partners





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SWIM ➤ 2018 ➤ Toyota Boshoku Canada Inc. ➤ TB - Elmira ➤ Report Preview

Report Preview

Report Details

Report Year

2018

Report Type:

NPRI,ON MECP TRA

Report Status:

Submitted

Modified Date/Time:

31/05/2019 10:10 AM

Company and Facility Details

Company Name:

Toyota Boshoku Canada Inc.

Business Number:

850793365

Mailing Address:

Address Line 1: 45 Southfield Drive

City, Province/Territory, Postal Code: Elmira Ontario N3B 3L6

Country: Canada

Facility Name:

TB - Elmira

NAICS Code:

332999

NPRI ID:

11074

Portable:

. .

Physical Address:

Address Line 1: 45 Southfield Drive Drive

City, Province/Territory, Postal Code: Elmira Ontario N3B 3L6

Country: Canada Latitude: 43.58249 Longitude: -80.5557 UTM Zone: 17 UTM Easting: 535870 UTM Northing: 4825600

Contacts Details

Contact Type

Technical Contact

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Email: jason.psutka@tbamerica.com Contact Type Highest Ranking Employee Name: Ulrich Borths Position: Plant Manager Telephone: 5198804104 Fax: 5196690019 Email: ulrich.borths@tbamerica.com Mailing Address: Address Line 1: 45 Southfield Drive City, Province/Territory, Postal Code: Elmira Ontario N3B3L6 Country: Canada Contact Type Person who prepared the report Name: Lloyd Hipel Position: Applied Solutions, Director Telephone: 5195785100 Email: Ihipel@enviro-stewards.com Mailing Address: Delivery Mode: GeneralDelivery Address Line 1: 1 Union Street City, Province/Territory, Postal Code: Elmira Ontario N3B 3J9 Country: Canada

General Information Number of employees:

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
Usual Number of Operating Hours per day:	19
Usual Daily Start Time (24h) (hh:mm):	07:00

540

Substance List

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
110-82-7	Cyclohexane	10.7000	N/A	N/A	N/A	tonnes
78-93-3	Methyl ethyl ketone	1.8520	N/A	N/A	N/A	tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	0.6090	N/A	N/A	N/A	tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.3020	N/A	N/A	N/A	tonnes
NA - M16	Volatile Organic Compounds (VOCs)	21.3910	8.8270	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
110-82-7	Cyclohexane	Yes	Yes		No
78-93-3	Methyl ethyl ketone	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
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	
110-82-7	Cyclohexane	Yes	No	No	
78-93-3	Methyl ethyl ketone	Yes	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
110-82-7	Cyclohexane	No	No	No
78-93-3	Methyl ethyl ketone	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
110-82-7	Cyclohexane		As a reactant	
78-93-3	Methyl ethyl ketone			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
110-82-7	Cyclohexane	Use	10.7 tonnes	Yes
110-82-7	Cyclohexane	Creation	0 tonnes	No
110-82-7	Cyclohexane	Contained in Product	0 tonnes	No
78-93-3	Methyl ethyl ketone	Use	1.85 tonnes	Yes
78-93-3	Methyl ethyl ketone	Creation	0 tonnes	No
78-93-3	Methyl ethyl ketone	Contained in Product	0 tonnes	No
NA - M09	PM10 - Particulate Matter <= 10 Microns	Use	0 tonnes	No
NA - M09	PM10 - Particulate Matter <= 10 Microns	Creation	0.609 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	0.302 tonnes	Yes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Contained in Product		
NA - M16	Volatile Organic Compounds (VOCs)	Use	21.391 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Creation	0 tonnes	No
NA - M16	Volatile Organic Compounds (VOCs)	Contained in Product		

TRA Quantifications - VOC Breakdown List

CAS RN	Substance Name	Use, Creation, Contained in Product	Quantity
141-78-6	Ethyl acetate	Use	4.872 tonnes
NA - 31	Heptane (all isomers)	Use	2.103 tonnes
78-93-3	Methyl ethyl ketone	Use	1.852 tonnes
1330-20-7	Xylene (all isomers)	Creation	0 tonnes

TRA Quantifications - Total Speciated VOCs

Use, Crea	ition, Contained in Product	Quantity
Hea		8 827 tonnes

Use, Creation, Contained in Product	Quantity
Creation	0 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
110-82-7	Cyclohexane					No	
78-93-3	Methyl ethyl ketone					No	
NA - M09	PM10 - Particulate Matter <= 10 Microns					No	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns					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
110-82-7	Cyclohexane	Stack or Point Releases	O - Engineering Estimates		10.7 tonnes
78-93-3	Methyl ethyl ketone	Stack or Point Releases	O - Engineering Estimates		1.852 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Stack or Point Releases	O - Engineering Estimates		0.609 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Stack or Point Releases	O - Engineering Estimates		0.302 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Fugitive Releases	O - Engineering Estimates		21.391 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Sources - Speciated VOCs	NA - Not Applicable		21.391 tonnes

On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
110-82-7	Cyclohexane	10.7 tonnes
78-93-3	Methyl ethyl ketone	1.852 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	0.609 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.302 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	21.391 tonnes

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

Category	CAS RN	Substance Name	Quantity
Other Sources - Speciated VOCs	141-78-6	Ethyl acetate	4.872 tonnes
Other Sources - Speciated VOCs	NA - 31	Heptane (all isomers)	2.103 tonnes
Other Sources - Speciated VOCs	78-93-3	Methyl ethyl ketone	1.852 tonnes

On-site Releases - Total

CAS RN	Substance Name	Total releases
110-82-7	Cyclohexane	10.7 tonnes
78-93-3	Methyl ethyl ketone	1.852 tonnes

On-site Releases - Quarterly Breakdown of Annual Releases

CAS RN	Substance Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
110-82-7	Cyclohexane	25	25	25	25
78-93-3	Methyl ethyl ketone	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
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
	Volatile												

CAS RN	Substance Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
NA - M16	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
110-82-7	Cyclohexane	Decrease in production levels	
78-93-3	Methyl ethyl ketone	Decrease in production levels	
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	Decrease in production levels	
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
110-82-7	Cyclohexane		Other (specify in comment field)	Not disposed of.
78-93-3	Methyl ethyl ketone		Other (specify in comment field)	Not disposed of.

Recycling - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Recycled	Reasons for Changes in Quantities Recycled from Previous Year	Comments
110-82-7	Cyclohexane		Other (specify in comment field)	Not recycled offsite.
78-93-3	Methyl ethyl ketone		Other (specify in comment field)	Not recycled offsite.

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
110-82-7	Cyclohexane	No	Enters the facility (Use)	10.7 tonnes	12.705 tonnes	2017	-2.005	-15.78
110-82-7	Cyclohexane	No	Creation	0 tonnes	0 tonnes	2017	0	
110-82-7	Cyclohexane	No	Contained in Product	0 tonnes	0 tonnes	2017	0	
141-78-6	Ethyl acetate	Yes	Enters the facility (Use)	4.872 tonnes	6.594 tonnes	2017	-1.722	-26.11
NA - 31	Heptane (all isomers)	Yes	Enters the facility (Use)	2.103 tonnes	2.843 tonnes	2017	-0.740	-26.03
78-93-3	Methyl ethyl ketone	No	Enters the facility (Use)	1.85 tonnes	2.167 tonnes	2017	-0.317	-14.63
78-93-3	Methyl ethyl ketone	No	Creation	0 tonnes	0 tonnes	2017	0	
78-93-3	Methyl ethyl ketone	No	Contained in Product	0 tonnes	0 tonnes	2017	0	
78-93-3	Methyl ethyl ketone	Yes	Enters the facility (Use)	1.852 tonnes	2.087 tonnes	2017	-0.235	-11.26
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	0.609 tonnes	0.647 tonnes	2017	-0.038	-5.87
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	0.302 tonnes	0.316 tonnes	2017	-0.014	-4.43

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

CAS RN	Substance Name	Reason(s) for Change	Other Reason
110-82-7	Cyclohexane	Decrease in production levels	
78-93-3	Methyl ethyl ketone	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	
NA - M16	Volatile Organic Compounds (VOCs)	Decrease in production levels	

Comparison Report - On-site Releases

CAS RN	Substance Name	Is Category	Ouantity	Last Reported	Reporting Period of Last	Change	% Change
CAS KI	Substance Name	Breakdown Category	Qualitity	Quantity	Reported Quantity	Change	70 Change

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
110-82-7	Cyclohexane	No	Total Releases to Air	10.7 tonnes	12.705 tonnes	2017	-2.005	-15.78
110-82-7	Cyclohexane	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
110-82-7	Cyclohexane	No	Total Releases to Land	0 tonnes	0 tonnes	2017	0	
110-82-7	Cyclohexane	No	Total Releases to All Media	0 tonnes	0 tonnes	2016	0	
141-78-6	Ethyl acetate	Yes	Total Releases to Air	4.872 tonnes	6.594 tonnes	2017	-1.722	-26.11
NA - 31	Heptane (all isomers)	Yes	Total Releases to Air	2.103 tonnes	2.843 tonnes	2017	-0.740	-26.03
78-93-3	Methyl ethyl ketone	No	Total Releases to Air	1.852 tonnes	2.167 tonnes	2017	-0.315	-14.54
78-93-3	Methyl ethyl ketone	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
78-93-3	Methyl ethyl ketone	No	Total Releases to Land	0 tonnes	0 tonnes	2017	0	
78-93-3	Methyl ethyl ketone	No	Total Releases to All Media	0 tonnes	0 tonnes	2016	0	
78-93-3	Methyl ethyl ketone	Yes	Total Releases to Air	1.852 tonnes	2.087 tonnes	2017	-0.235	-11.26
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	Total Releases to Air	0.609 tonnes	0.647 tonnes	2017	-0.038	-5.87
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	0 tonnes	2017	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Air	0.302 tonnes	0.316 tonnes	2017	-0.014	-4.43
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2017	0	
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	0 tonnes	2016	0	

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

CAS RN	Substance Name	Reason(s) for Change	Other Reason
110-82-7	Cyclohexane	Decrease in production levels	
78-93-3	Methyl ethyl ketone	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	
NA - M16	Volatile Organic Compounds (VOCs)	Decrease in production levels	

Pollution Prevention

Does the facility have a documented pollution prevention plan?

No

No

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

Progress on TRA Plan - Objectives

CAS RN	Substance Name	Objectives
110-82-7	Cyclohexane	Toyota Boshoku Elmira intends to reduce the use of cyclohexane through material substitution, on-site reuse, improved inventory techniques, and training and improved operating practices.
141-78-6	Ethyl acetate	Toyota Boshoku intends to reduced its use of ethyl acetate through process modification, leak prevention, on-site reuse, improved inventory techniques, and improved operating practices.
NA - 31	Heptane (all isomers)	Toyota Boshoku Elmira intends to reduce the use of heptane through material substitution, product design, on-site recycling, improved inventory techniques, and training or improved operating practices.
78-93-3	Methyl ethyl ketone	Toyota Boshoku Elmira intends to reduce the use of MEK through spill and leak prevention, on-site recycling, and improved inventory techniques.
NA - M09	PM10 - Particulate Matter <= 10 Microns	Toyota Boshoku intends to reduce its creation of PM10 through product design/reformulation, equipment/process modification, spill & leak prevention, and training/improved operating practices.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Toyota Boshoku Elmira intends to reduce the use of PM2.5 through product design, equipment modification, and training and improved operating practices.

Progress on TRA Plan - Use Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
110-82-7	Cyclohexane	8668 kg	No timeline target	
141-78-6	Ethyl acetate	No quantity target	No timeline target	
NA - 31	Heptane (all isomers)	302 kg	2	
78-93-3	Methyl ethyl ketone	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	

Progress on TRA Plan - Creation Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
110-82-7	Cyclohexane	No quantity target	No timeline target	
141-78-6	Ethyl acetate	No quantity target	No timeline target	
NA - 31	Heptane (all isomers)	No quantity target	No timeline target	
78-93-3	Methyl ethyl ketone	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	

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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	reviews taking place on how to implement this change	TBCA is evaluating our flushing frequency requirements.	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
110-82-7	Cyclohexane	Substituted materials	trials on production equipment were completed; difficulties observed	water-based adhesive trials are continuing; goal is to implement in FY2019	Challenges to implementation are being met; the switch to water-based adhesive is delayed for at least a couple of years.	Challenges to implementation are being met; the switch to water-based adhesive is delayed for at least a couple of years.
110-82-7	Cyclohexane	Other	Already completed per plan.	Already completed per plan.	Already completed per plan.	Already completed per plan.
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	Optimization of the robot's spray pattern were completed resulting in a 3% reduction in glue consumption	TBCA optimized the spray pattern resulting in a 3% reduction in glue consumption	The described steps match the actual steps	TBCA followed its plan and has completed this task
110-82-7	Cyclohexane	Other	Already completed as per plan.	Already completed as per plan.	Already completed as per plan.	Already completed as per plan.
110-82-7	Cyclohexane	Training related to toxics substance reduction	reviews taking place on how to implement this change	TBCA is evaluating our spray pattern test requirements.	This was evaluated and we are unable to reduce frequency.	This was evaluated and we are unable to reduce frequency.
141-78-6	Ethyl acetate	Modified equipment, layout or piping	The equipment was reviewed and it was determined that with the appropriate changes, solvent could be introduced closer to the gun to reduce waste.	The equipment was reviewed and it was determined that with the appropriate changes, solvent could be introduced closer to the gun to reduce waste.	This project has met challenges and is delayed until next model	This project has met challenges and is delayed until next model
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	The procedure was reviewed and there is a plan to change the procedure to ensure the collection pail is empty before shutdowns	The procedure was reviewed and there is a plan to change the procedure to ensure the collection pail is empty before shutdowns	The procedure was reviewed and there is a plan to change the procedure to ensure the collection pail is empty before shutdowns. We are on track to complete this item within the prescribed timeline.	The procedure was reviewed and there is a plan to change the procedure to ensure the collection pail is empty before shutdowns. We are on track to complete this item within the prescribed timeline.
141-78-6	Ethyl acetate	Instituted recirculation within a process	The equipment was reviewed and it was determined that reuse can occur by pouring the samples back into the glue resevoir.		The equipment was reviewed and it was determined that reuse can occur by pouring the samples back into the glue resevoir.	The equipment was reviewed and it was determined that reuse can occur by pouring the samples back into the glue resevoir.
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	The process was reviewed and the countermeasure implemented. This item is complete.	The process was reviewed and the countermeasure implemented. This item is complete.	The process was reviewed and the countermeasure implemented. This item is complete.	The process was reviewed and the countermeasure implemented. This item is complete.
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	This item is complete.	This item is complete.	This item is complete.	This item is complete.

leptane (all somers) leptane (all somers) leptane (all somers)	Instituted improved purchasing procedures Substituted materials Other Modified design or composition Improved maintenance scheduling, record keeping or	reviews taking place on how to implement this change Purchasing review is taking place to find alternative reviews taking place on how to implement this change trials on production equipment were completed; difficulties observed Optimization of the	TBCA is evaluating our flushing frequency requirements. Purchasing is looking for an alternative product that meets our needs. TBCA is looking into how to implement this change water-based adhesive trials are continuing; goal is to implement in	The described steps match the actual steps The described steps match the actual steps The described steps match the actual steps Research / trials are continuing;	TBCA is following its plan and is on track to achieve its target TBCA is following its plan and is on track to achieve its target TBCA is following its plan and is on track to achieve its target
deptane (all somers) deptane (all somers) deptane (all somers)	Modified design or composition Improved maintenance scheduling, record keeping or	taking place to find alternative reviews taking place on how to implement this change trials on production equipment were completed; difficulties observed Optimization of the	an alternative product that meets our needs. TBCA is looking into how to implement this change water-based adhesive trials are continuing; goal is to implement in	actual steps The described steps match the actual steps Research / trials are continuing;	on track to achieve its target TBCA is following its plan and is
leptane (all somers)	Modified design or composition Improved maintenance scheduling, record keeping or	how to implement this change trials on production equipment were completed; difficulties observed Optimization of the	to implement this change water-based adhesive trials are continuing; goal is to implement in	actual steps Research / trials are continuing;	
deptane (all somers)	design or composition Improved maintenance scheduling, record keeping or	equipment were completed; difficulties observed Optimization of the	trials are continuing; goal is to implement in		
somers)	maintenance scheduling, record keeping or		FY2019	challenges include changing our process to accommodate the water-based adhesive; need higher heat	TBCA is following its plan and is on track to achieve its target
	procedures	robot's spray pattern were completed resulting in a 3% reduction in glue consumption	TBCA optimized the spray pattern resulting in a 3% reduction in glue consumption	The described steps match the actual steps	TBCA followed its plan and has completed this task
somers)	Other	This project is complete.	This project is complete.	This project is complete.	This project is complete.
leptane (all somers)	Training related to toxics substance reduction	reviews taking place on how to implement this change	TBCA is evaluating our spray pattern test requirements.	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
lethyl ethyl etone	Other	Already completed per plan.	Already completed per plan.	Already completed per plan.	Already completed per plan.
lethyl ethyl etone	Other	Already completed per plan.	Already completed per plan.	Already completed per plan.	Already completed per plan.
lethyl ethyl etone	Other	Already completed per plan.	Already completed per plan.	Already completed per plan.	Already completed per plan.
M10 - articulate latter <= 0 Microns	Modified equipment, layout or piping	Automation was introduced to shut-off weld repair stations when not in use	Automation was introduced to shut-off weld repair stations when not in use	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
M10 - articulate latter <= 0 Microns	Modified design or composition	reviews taking place on how to implement this change	TBCA is evaluating our weld lengths and looking for opportunities	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
M10 - articulate latter <= 0 Microns	Improved procedures for loading, unloading and transfer operations	Weather stripping and dock seals were installed on all dock doors, roll-up doors and levelers	Weather stripping and dock seals were installed on all dock doors, roll-up doors and levelers	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
M10 - articulate latter <= 0 Microns	Other	Weld cells were sealed to reduce our exhaust air flow rate requirement	Weld cells were sealed to reduce our exhaust air flow rate requirement	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
M10 - articulate latter <= 0 Microns	Other	Automation was introduced to damper off the exhaust air flow when not in use	Automation was introduced to damper off the exhaust air flow when not in use	The described steps match the actual steps	TBCA is following its plan and is on track to achieve its target
M2.5 - articulate latter <= .5 Microns	Modified equipment, layout or piping	A review of exhaust requirements has started.	A review of exhaust requirements has started, but process was discontinued.	A review of exhaust requirements has started, but process was discontinued.	Measure was started, but process was discontinued and the measure is therefore no longer applicable.
M2.5 - articulate latter <= .5 Microns	Other	This project is complete.	This project is complete.	This project is complete.	This project is complete.
M2.5 - articulate	Other	Operating procedures were reviewed and it was determined that the system will be automated to include an automatic shut off.	Operating procedures were reviewed and it was determined that the system will be automated to include an automatic shut off.	Operating procedures were reviewed as per the plan, during which time is was determined that the system will be automated to include an automatic shut off so that the exhaust fan only runs when needed	Operating procedures were reviewed as per the plan, during which time is was determined that the system will be automated to include an automatic shut off so that the exhaust fan only runs when needed.
M. arriado	10 - ticulate tter <= Microns 2.5 - ticulate tter <= Microns 2.5 - ticulate tter <= Microns	Modified design or composition Improved procedures for loading, unloading and transfer operations 10 - ticulate tter <= Microns 2.5 - ticulate equipment, layout or piping 2.5 - ticulate tter <= Microns 2.5 - ticulate tter <= Microns Other	Modified design or composition Improved procedures for loading, unloading and transfer operations Other Other Other Modified design or composition Weather stripping and dock seals were installed on all dock doors, roll-up doors and levelers Weld cells were sealed to reduce our exhaust air flow rate requirement Automation was introduced to damper off the exhaust air flow when not in use Other Modified equipment, layout or piping Design of the design or composition Other Modified to reduce our exhaust air flow when not in use A review of exhaust requirements has started. This project is complete. Operating procedures were reviewed and it was determined that the system will be automated to include an	Modified design or composition Improved procedures for loading, unloading and transfer operations Other Other Automation was introduced to damper off the exhaust air flow when not in use Microns Modified design or composition Improved procedures for loading, unloading and transfer operations Other Other Automation was introduced to damper off the exhaust air flow when not in use Modified design or composition Weather stripping and dock seals were installed on all dock doors, roll-up doors and levelers Weld cells were sealed to reduce our exhaust air flow rate requirement Other Automation was introduced to damper off the exhaust air flow when not in use Other Modified equipment, layout or piping A review of exhaust requirements has started. A review of exhaust requirements has started, but process was discontinued. This project is complete. Other Othe	Modified design or composition Improved procedures for loading, unloading and transfer operations 10 - ticulate tet < < = Microns Mel dells were sealed to reduce our exhaust air flow rate requirement 10 - ticulate tet < < = Microns Mel dells were sealed to reduce our exhaust air flow when not in use Modified down not in use Modified procedures for loading, unloading and transfer operations Microns Mel dells were sealed to reduce our exhaust air flow rate requirement Mel dells were sealed to reduce our exhaust air flow rate requirement Modified equipment, layout or pliping A review of exhaust requirements has started, but process was discontinued. A review of exhaust requirements has started, but process was discontinued. A review of exhaust requirements has started, but process was discontinued. The described steps match the actual steps The described steps match the actual

			will be met	
110-82-7	Cyclohexane	Instituted improved purchasing procedures	Yes	It looks like the timeline of the current version of the plan will be met.
110-82-7	Cyclohexane	Substituted materials	No	Challenges to implementation are being met; the switch to water-based adhesive is delayed for at least a couple of years.
110-82-7	Cyclohexane	Other	Yes	Already completed per plan.

current version of the plan Comments:

CAS RN

Substance Name Activity

CAS RN Substance Name		Activity	current version of the plan will be met	Comments:	
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	Yes	A new spray gun is showing promise - implementation will occur in 2019	
110-82-7	Cyclohexane	Other	Yes		
110-82-7	Cyclohexane	Training related to toxics substance reduction	No	This was evaluated and we are unable to reduce frequency.	
141-78-6	Ethyl acetate	Modified equipment, layout or piping	No	This project has met challenges and is delayed until next model	
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	Yes	This project is complete.	
141-78-6	Ethyl acetate	Instituted recirculation within a process	Yes	This project is complete.	
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	Yes	Other methods of waste glue collection were implemented that achieved the same goal. This project is complete.	
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	Yes	This project is complete.	
NA - 31	Heptane (all isomers)	Instituted improved purchasing procedures	Yes	It looks like the timeline of the current version of the plan will be met.	
NA - 31	Heptane (all isomers)	Substituted materials	No	This project is delayed because a comparable product has not yet been found	
NA - 31	Heptane (all isomers)	Other	Yes	This project is complete.	
NA - 31	Heptane (all isomers)	Modified design or composition	No	This project is delayed because a comparable product has not yet been found	
NA - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	Yes	The plan's timeline has been met.	
NA - 31	Heptane (all isomers)	Other	Yes	This project is complete.	
NA - 31	Heptane (all isomers)	Training related to toxics substance reduction	Yes	It looks like the timeline of the current version of the plan will be met.	
78-93-3	Methyl ethyl ketone	Other	Yes	This project is complete.	
78-93-3	Methyl ethyl ketone	Other	Yes	This project is complete.	
78-93-3	Methyl ethyl ketone	Other	Yes	This project is complete.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Modified equipment, layout or piping	Yes	This project is complete.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Modified design or composition	Yes	It looks like the timeline of the current version of the plan will be met.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	Yes	This project is complete.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Other	Yes	This project is complete.	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Other	Yes	This project is complete.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Modified equipment, layout or piping	No	Measure was started, but process was discontine and the measure is therefore no longer applicable.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Other	Yes	This project is complete.	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Other	Yes	Our weld exhaust system is now fully automated; this project is complete.	

Will the timelines in the

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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	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
141-78-6	Ethyl acetate	Modified equipment, layout or piping	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M09	PM10 - Particulate Matter <= 10 Microns	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:	
NA - M09	PM10 - Particulate Matter <= 10 Microns	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:	
NA - M09	PM10 - Particulate Matter <= 10 Microns	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:	
NA - M09	PM10 - Particulate Matter <= 10 Microns	Modified equipment, layout or piping	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	Modified equipment, layout or piping	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Modified equipment, layout or piping	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Modified equipment, layout or piping	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Modified equipment, layout or piping	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Modified equipment, layout or piping	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 ubstance Name Activity Reductions due to Options Implemented

CAS RN	'Substance Name	Activity	Reductions due to Options Implemented	Quantity
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
110-82-7	Cyclohexane	Instituted improved purchasing procedures	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	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
141-78-6	Ethyl acetate	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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 - 31	Heptane (all isomers)	Instituted improved purchasing procedures	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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

CAS RN	Name	Activity	Reductions due to Options Implemented	Quantity
78-93-3	Methyl ethyl ketone	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
110-82-7	Cyclohexane	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:	No Amount
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
NA - 31	Heptane (all isomers)	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:	No Amount
NA - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - On-site reuse, recycling or recovery

CAS RN	Substance Name Activity Reductions due to Options Implemented		Reductions due to Options Implemented	Quantity
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	Other	he amount of reduction in release to air of the substance at the facility during the reporting period hat resulted due to the steps described:	
110-82-7	Cyclohexane	Other	he amount of reduction in release to water of the substance at the facility during the reporting eriod that resulted due to the steps described:	
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	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
141-78-6	Ethyl acetate	Instituted recirculation within a process	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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 - Product design or reformulation CAS RN Substance Name Activity Reductions due to Options Implemented

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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
NA - 31	Heptane (all isomers)	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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:	0.0217 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M09	PM10 - Particulate Matter <= 10 Microns	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
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - Spill or leak prevention

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
141-78-6	Ethyl acetate	Improved procedures for loading, unloading and transfer operations	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	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
78-93-3	Methyl ethyl ketone	Other	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	0.0004 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	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 - M09	PM10 - Particulate Matter <= 10 Microns	Improved procedures for loading, unloading and transfer operations	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	Other	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	0.0033 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - Good operator practice or training

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	Improved maintenance scheduling, record keeping or procedures	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
110-82-7	Cyclohexane	Training related to toxics substance reduction	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
141-78-6	Ethyl acetate	Improved maintenance scheduling, record keeping or procedures	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	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 - 31	Heptane (all isomers)	Improved maintenance scheduling, record keeping or procedures	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	Other	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	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 - 31	Heptane (all isomers)	Training related to toxics substance reduction	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	Other	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the steps described:	0.0002 tonnes
NA - M09	PM10 - Particulate Matter <= 10 Microns	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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
NA - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	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 - M09	PM10 - Particulate Matter <= 10 Microns	Other	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the steps described:	No Amount
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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:	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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:	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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 - 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?	Provide a public summary of the description of the additional action taken
110-82-7	Cyclohexane	No	
141-78-6	Ethyl acetate	No	
NA - 31	Heptane (all isomers)	No	
78-93-3	Methyl ethyl ketone	No	
NA - M09	PM10 - Particulate Matter <= 10 Microns	No	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	

Progress on TRA Plan - Reductions due to additional actions taken

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
110-82-7	Cyclohexane	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the additional actions.	
110-82-7	Cyclohexane	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the additional actions.	
110-82-7	Cyclohexane	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the additional actions.	
110-82-7	Cyclohexane	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.	
110-82-7	Cyclohexane	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.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
110-82-7	Cyclohexane	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to additional actions.	
110-82-7	Cyclohexane	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.	
110-82-7	Cyclohexane	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.	
110-82-7	Cyclohexane	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.	
NA - 31	Heptane (all isomers)	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 31	Heptane (all isomers)	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 31	Heptane (all isomers)	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 - 31	Heptane (all isomers)	The amount of reduction in release to air of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 31	Heptane (all isomers)	The amount of reduction in release to water of the substance at the facility during the reporting period that resulted due to the additional actions.	
NA - 31	Heptane (all isomers)	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to additional actions.	
NA - 31	Heptane (all isomers)	The amount of reduction in the substance disposed on-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 31	Heptane (all isomers)	The amount of reduction in the substance disposed off-site (including tailings and waste rocks) at the facility during the reporting period that resulted due to the additional actions.	
NA - 31	Heptane (all isomers)	The amount of reduction in the substance recycled off-site at the facility during the reporting period that resulted due to the additional actions.	
78-93-3	Methyl ethyl ketone	The amount of reduction in use of the substance at the facility during the reporting period that resulted due to the additional actions.	
78-93-3	Methyl ethyl ketone	The amount of reduction in creation of the substance at the facility during the reporting period that resulted due to the additional actions.	
78-93-3	Methyl ethyl ketone	The amount of reduction in the substance contained in product at the facility during the reporting period that resulted due to the additional actions.	
78-93-3	Methyl ethyl ketone	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.	
78-93-3	Methyl ethyl ketone	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.	
78-93-3	Methyl ethyl ketone	The amount of reduction in release to land of the substance at the facility during the reporting period that resulted due to additional actions.	
78-93-3	Methyl ethyl ketone	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.	
78-93-3	Methyl ethyl ketone	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.	
78-93-3	Methyl ethyl ketone	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.	

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
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.	

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
110-82-7	Cyclohexane	No		
141-78-6	Ethyl acetate	No		
NA - 31	Heptane (all isomers)	No		
78-93-3	Methyl ethyl ketone	No		
NA - M09	PM10 - Particulate Matter <= 10 Microns	No		
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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
Toyota Boshoku Canada Inc.

Certifying Official (or authorized delegate)
Jason Psutka

Report Submitted by
Jason Psutka

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 31/05/2019, I, Ulrich Borths, 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
110-82-7	Cyclohexane
141-78-6	Ethyl acetate
NA - 31	Heptane (all isomers)
64742-95-6	Light aromatic solvent naphtha
78-93-3	Methyl ethyl ketone
NA - M09	PM10 - Particulate Matter <= 10 Microns
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns
1330-20-7	Xylene (all isomers)

^{*}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
Toyota Boshoku Canada Inc.
Highest Ranking Employee
Ulrich Borths
Report Submitted by
Jason Psutka
Website address
https://www.toyota-boshoku.com/us/index.html

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	31/05/2019	TB - Elmira	Ontario	Elmira	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.

Version: 3.15.0

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