

June 10, 2016



Enviro-Stewards
Engineers & Scientists



Reference No. 3106-07

Jason Psutka
Toyota Boshoku Canada
45 Southfield Dr.
Elmira, ON N3B 3L6

Dear Jason,

Re: 2015 NPRI & TRA overview for Toyota Boshoku Elmira, ON

Please find attached the following information pertaining to the 2015 NPRI & TRA reporting for Toyota Boshoku's Elmira facility.

- Table 1: 2015 NPRI & TRA Substances Summary
- Table 2: Part 5 Speciated Substance Summary
- Table 3: 2015 NPRI Part 4 Substance Emission Summary
- Table 4: Welding Emissions
- Table 5: Emissions from Natural Gas Consumption
- Table 6: Emissions from Diesel Generator
- Table 7: Spray Booth Particulate Emissions
- Table 8: 2015 VOC Emissions
- TRA updated process flow diagrams and balance tables
- NPRI/TRA Online Report Submission summary

If you have any questions or comments regarding this information please feel free to contact us.

Yours truly,
ENVIRO-STEWARDS INC.

A handwritten signature in blue ink, appearing to read 'Lloyd Hipel', written over a horizontal line.

Lloyd Hipel, P. Eng.

Table 1: 2015 NPRI & TRA Overall Summary Table

Substance Name	CAS #	Stage	Process	Used	Process Inputs (kg/year)			Process Outputs (kg/year)		
					Created	Contained in product	Total Inputs	Released to air	Contained in Product	Total Output
Methyl ethyl ketone	78-93-3	Manufacturing	Door trim adhesive	954	-	-	954	954	-	-
			20% vinyl edge wrapping	50	-	-	50	50	-	-
			Cleaning	384	-	-	384	384	-	-
			Touch up	3	-	-	3	3	-	-
Ethyl acetate	141-78-6	Manufacturing	Plan to be developed	1,634	-	-	1,634	1,634	-	-
PM2.5	n/a	Ancillary	Welding	-	202.8	-	-	202.8	-	202.8
			Diesel generator	-	2.8	-	-	2.8	-	2.8
			Spray booth	-	2.4	-	-	2.4	-	2.4
			Natural gas combustion	-	19.2	-	-	19.2	-	19.2
Total VOCs	n/a	NPRI only	NPRI only	10,096	-	-	-	-	-	-

Table 2: 2015 NPRI Part 5 Speciated Substance Summary

Part 1: Reporting Threshold (kg)

10,000

Part 5: Reporting Threshold (kg)

1,000

Contaminant	CAS #	Total Emissions (kg)	Part 1 Substance	Part 1 Reportable?	Part 5	Part 5 Reportable?
1-Butanol	71-36-3	3	N	N	N	N
Butyl Alcohol	78-83-1	3	N	N	Y	N
Butyl Carbitol	112-34-5	0	Y	N	Y	N
Cyclohexane	110-82-7	5183	Y	N	N	N
Ethoxylate	84133-50-6	0	N	N	N	N
Ethyl Acetate	141-78-6	1,634	N	N	Y	Y
Ethyl Benzene	100-41-4	3	Y	N	N	N
Heptane	142-82-5	730	N	N	Y	N
Isobutane	75-28-5	7	N	N	Y	N
Isopropyl Alcohol	67-63-0	3	Y	N	Y	N
Methanol	67-56-1	502	Y	N	N	N
Methyl ethyl ketone	78-93-3	1,391	Y	N	Y	Y
Mineral Spirits	64742-47-8	160	N	N	N	N
N-Butane	106-97-8	10	N	N	Y	N
Propane	74-98-6	26	N	N	Y	N
Toluene	108-88-3	17	N	N	Y	N
VM&P Naptha	64742-89-8	0	Y	N	Y	N
Xylene	1330-20-7	14	N	N	Y	N
Dimethylether	115-10-6	8	N	N	Y	N
Light aromatic solvent naphtha	64742-95-6	403	N	N	Y	N
Total		10,096 kg/yr				

Table 3: 2015 NPRI Part 4 Substance Emission Summary

Pollutant	Process	Material	Quantity	Units	Emission Factor	Units	Annual Emission	Units	% PM-10	PM-10	% PM 2.5	PM-2.5
Particulates												
	Welding ¹	GMAW ER70S-6	52,000	kg/yr	See Note #1	-	270	kg/yr	100%	270	75%	203
	Diesel generator	Diesel	4,500	L/yr	-	-	2.8	kg/yr	100%	2.8	100%	2.8
	Heating	Natural gas	158,198	m ³ /yr	0.122	g/m ³	19	kg/yr	100%	19	100%	19
	Spray booth	Various sprays	11,682	kg/yr	24	kg/yr	24	kg/yr	40%	9.6	10%	2.4
	Total						316	kg/yr		302		227
	Reporting Threshold						20,000	kg/yr		500		300
VOCs												
	Spray booth	VOCs	10,096	kg/yr	-	-	10,096	kg/yr				
	Heating	Natural gas	158,198	m ³ /yr	-	-	14	kg/yr				
	Total						10,110	kg/yr				
	Reporting Threshold						10,000	kg/yr				

Notes:

1. Welding emissions based on Environment Canada's "Guidance for the Reporting of Welding Activities" Emission Calculator

2. Cooling tower emission rates based on article by Joel Reisman and Gordon Frisbie titled [Calculating Realistic PM10 Emissions from Cooling Towers](#)

PM10 emission factor reported in US-EPA AP-42 Table 13.4-1 is 0.019 lb/1000 US gallons of circulating water, assuming a total dissolved solids concentration of 12,000 ppm. This factor has been adjusted for TDS of 7,700 ppm used in Reisman and Frisbie. The lower TDS yields a higher PM-10 since it is assumed that a larger proportion of particles will be less than 10 microns. Conversely for high TDS values, while there may be more overall particulate, it is less likely that the particulate will be less than 10 microns.

A cursory literature review indicates that Reisman and Frisbie's methodology is accepted as a refinement of the US-EPA methodology. The US-EPA assumes that all particulate matter in the cooling tower drift is PM-10.

Table 4: 2015 Welding Emissions

GMAW Electrode type E70S: 52,000 kg

Part 4 Releases	
TPM	0.270 tonne
PM10	0.270 tonne
PM2.5	0.203 tonne

All welding fume is considered to be PM-10 (particles < 10 µm aerodynamic diameter)
Since the particle size is less than 10 micron (PM-10), all PM-10 emissions are assumed to be the same as TPM
PM2.5 emissions are assumed as 75% of PM-10 emissions due to the fact that 50% to 75% of the particles have diameters in the range of 0.4 to 0.8 micron size

Table 5: Emissions from Natural Gas Combustion

2015 Natural Gas Consumption

158,198 m³

Compound	CAS #	Emission Factor (lb/10 ⁶ ft ³)	Data Source	Data Quality	2015 Emissions (kg/yr)	Reporting Threshold (kg/yr)
Carbon Dioxide	124-38-9	1.20E+05	USEPA	A	158,198	100,000,000
Carbon Monoxide	630-08-0	8.40E+01	USEPA	B	213	20,000
HFC-134A	811-97-2	NA	NA		NA	10.0
Methane	74-82-8	2.30E+00	USEPA	B	6	5,000,000
Nitrous Oxide (N ₂ O)	10024-97-2	2.20E+00	USEPA	E	6	2,700
Oxides of Nitrogen (as NO ₂)	NA	1.00E+02	USEPA	B	253	NA
Oxides of Nitrogen (as NO) ¹	10102-43-9				165	14,000
PM - Total Particulate Matter	NA	7.60E+00	USEPA	D	19	20,000
PM10 ²	NA	7.60E+00	USEPA	D	19	500
PM2.5 ²	NA	7.60E+00	USEPA	D	19	300
Sulphur Dioxide	7446-09-5	6.00E-01	USEPA	A	2	20,000
Volatile Organic Compounds (VOC) ³	NA	5.50E+00	USEPA	C	14	10,000

1: Based on ratio of molecular weights of NO to NO₂

2: Assumes that all particulate matter is less than 1 um

3: Sum of VOC from combustion and Other VOCs

Assumptions

18% of annual consumption is carpet oven

82% of annual consumption is space heating (AMUs)

Table 6: Emissions from Diesel Generator

horsepower 2,168

	Emission Rate* (g/hp*hr)	Hours per year (hours)	Emission per Year (kg/yr)
Nitrogen Oxides	9.46	12	246
Sulphur Dioxide		12	0.0
Carbon Monoxide	1.32	12	34
Particulate Matter	0.107	12	2.8

* basis of emissions based on supplier technical data

Table 7: Spray Booth Particulate Emissions

		Qty	Units
Total quantity sprayed		25,936	kg/yr
VOC portion		14,255	kg/yr
Percent overspray		50%	%
Filter efficiency		99.59%	%
Particulate emissions per year		23.9	kg/yr
TPM	100%	23.9	kg/year
PM10	40%	9.6	kg/year
PM2.5	10%	2.4	kg/year

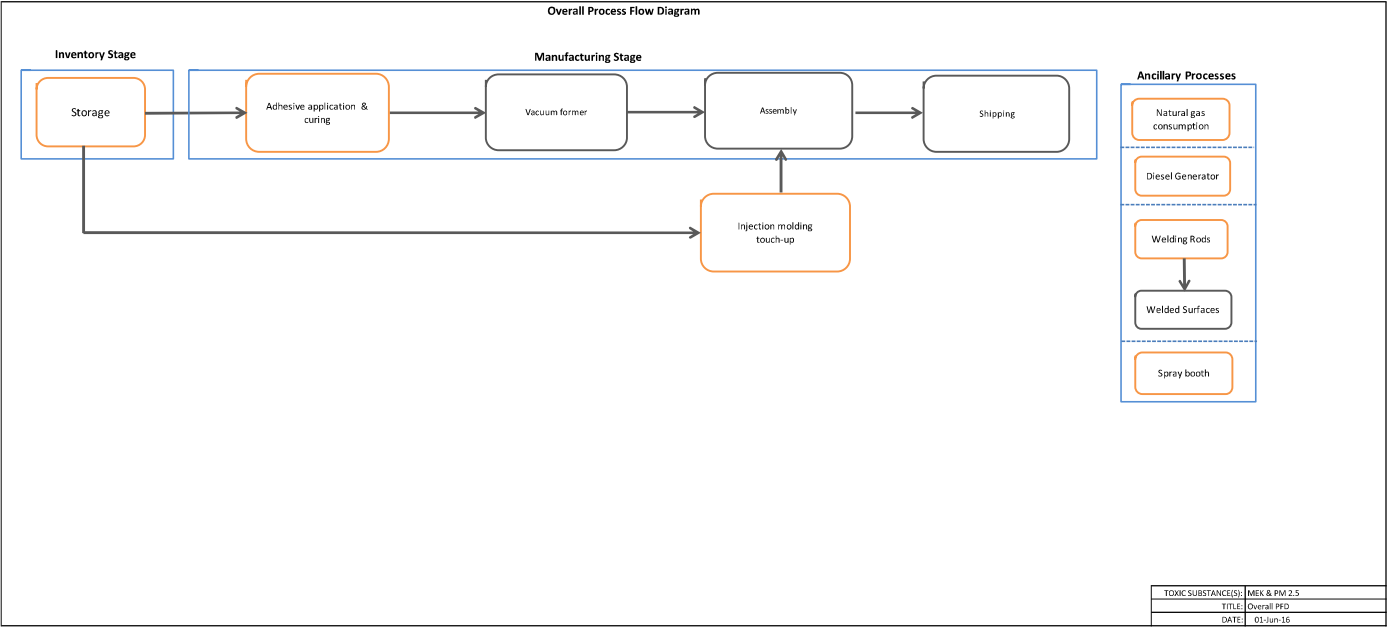
Notes

1. Percent overspray assumption based on conversation with Toyota Boshoku staff.
2. Filter efficiency data provided by Toyota Boshoku
3. Percent breakdown of particulate emissions by particle size based on published study of particle size distribution in paint spray aerosol.

R.A. Sabty-Daily et al, Size Distribution and Speciation of Chromium in Paint Spray Aerosol at an Aerospace Facility, British Occupational Hygiene Society, December 2004.

Table 8: 2015 VOC Emissions

Product Name	Total (kg)	Quantity (kg/yr)	Ingredients	CAS Number	Weight (%)	Mean (%)	Weight (kg)	Part 1 NPRI Compound?	Part 5 NPRI Compound?	VOC?	VOC Mass (kg)
MEK	384	384	Methyl ethyl ketone	78-93-3	100	100	384	Yes	Yes	Yes	384
LI-Bond YA211-1	0	0	Methylcyclohexane	108-87-2	30-40	35	0	No	No	Yes	0
		0	Cyclohexane	110-82-7	25-35	30	0	Yes	No	Yes	0
		0	Methyl Ethyl Ketone	78-93-3	5-15	10	0	Yes	Yes	Yes	0
		0	Methanol	67-56-1	1-10	5	0	Yes	Yes	Yes	0
LPS No Flash	9	9	1-bromopropane	106-94-5	50-75	62.5	5	No	No	No	0
		9	1,1,1,2-Tetrafluoromethane	811-97-2	25-50	37.5	3	No	No	No	0
		9	n-propanol	71-23-8	1-5	2.5	0.2	No	No	No	0
LPS TKX	11	11	Mineral Spirits	64742-47-8	60-70	65	7	No	Yes	Yes	7
		11	Hydrotreated Heavy Distillate	64742-52-5	10-20	15	2	No	No	No	0
		11	3-Methoxy-3-methylbutan-1-ol	56539-66-3	1-5	2.5	0.3	No	No	No	0
		11	Carbon Dioxide	124-38-9	1-5	2.5	0.3	No	No	No	0
Crown Mold Cleaner 3095	65	65	Heptane	142-82-5	30-60	45	29	No	Yes	Yes	29
		65	Mineral Spirits	64742-47-8	10-30	20	13	No	Yes	Yes	13
		65	Light aromatic solvent naphtha	64742-95-6	3-7	5	3	No	Yes	Yes	3
		65	Methylene Chloride	75-09-2	10-30	20	13	Yes	No	No	0
Tough Guard	121	121	Water	7732-18-5	75-85	Not an NPRI substance	0	No	No	No	0
		121	Ethoxylate	84133-50-6	<0.5	<1% not req'd to report	0	No	Yes	Yes	0
		121	Magnesium Nitrate	10377-60-3	<1	<1% not req'd to report	0	Yes	No	No	0
		121	Unreacted secondary alcohol	126950-60-5	<1	<1% not req'd to report	0	No	No	No	0
U-POL Red Spot 22M45 + 22M47	58	58	Toluene	108-88-3	30	30	17	Yes	Yes	Yes	17
		58	Xylene	1330-20-7	25	25	14	Yes	Yes	Yes	14
		58	Ethyl Benzene	100-41-4	5	5	3	Yes	No	Yes	3
		58	1-Butanol	71-36-3	5	5	3	Yes	No	Yes	3
		58	Butyl Alcohol	78-83-1	5	5	3	Yes	No	Yes	3
		58	Methyl ethyl ketone	78-93-3	5	5	3	Yes	Yes	Yes	3
		58	Isopropyl Alcohol	67-63-0	5	5	3	Yes	Yes	Yes	3
Flaw Repair Coating 7205 AA	0	0	Liquified Petroleum Gas	68476-85-7	15-40	27.5	0	No	No	No	0
		0	Ethyl Acetate	141-78-6	10-30	20	0	No	Yes	Yes	0
		0	Xylene	1330-20-7	10-30	20	0	Yes	Yes	Yes	0
		0	Methyl Acetate	79-20-9	10-30	20	0	No	No	No	0
		0	VM&P Naptha	64742-89-8	5-10	7.5	0	No	No	Yes	0
		0	Isopropyl Acetate	108-21-4	3-7	5	0	No	No	Yes?	0
		0	Toluene	108-88-3	3-7	5	0	Yes	Yes	Yes	0
		0	Butyl Carbitol	112-34-5	0.5-1.5	1	0	No	Yes	Yes	0
		0	Ethyl Benzene	100-41-4	0.1-1	0.1	0	Yes	No	Yes	0
Crown Silicone Mold Release	131	131	N-Butane	106-97-0	5-10	7.5	10	No	Yes	Yes	10
		131	Propane	74-98-6	10-30	20	26	No	Yes	Yes	26
		131	Methylene Chloride	75-09-2	60-100	80	105	Yes	No	No	0
		131	Isobutane	75-28-5	3-7	5	7	No	Yes	Yes	7
LADH1211-59L	20,080	20,080	Methylcyclohexane	108-87-2	10 - 30	20	4,016	No	No	Yes	4,016
		20,080	Cyclohexane	110-82-7	10 - 30	20	4,016	Yes	No	Yes	4,016
		20,080	Methanol	67-56-1	1 - 5	2.5	502	Yes	No	Yes	502
		20,080	Methyl ethyl ketone	78-93-3	3 - 7	5	1,004	Yes	No	Yes	1,004
323LH	4,668	4,668	Ethyl Acetate	141-78-6	30-40	35	1,634	No	No	Yes	1,634
		4,668	Cyclohexane	110-82-7	20-30	25	1,167	Yes	No	Yes	1,167
		4,668	Heptane	142-82-5	10-20	15	700	No	Yes	Yes	700
		4,668	Mineral Spirits	64742-48-9	1-5	3	140	No	Yes	Yes	140
		4,668	Methyltrimethoxysilane	1185-55-3	1 - 5	3	140	No	No	Yes	140
U-POL (moonstone + noble brown)	9	9	Dimethylether	115-10-6	70-90	80	8	No	Yes	Yes	8
		9	Acetone	67-64-1	10-30	20	2	No	No	Yes	2
		9	Propan-2-ol	200-661-7	1-10	5.5	1	No	No	Yes	1
VANSOL	400	400	Light aromatic solvent naphtha	64742-95-6	100	100	400	No	Yes	Yes	400
Total (kg) 25,936											Total (kg) 14,255



MEK BALANCE

Input					Process	Output										
Item		Quantity (kg/yr)	Estimation Method Used	Data Quality	Item	Item		Quantity (kg/yr)	Estimation Method Used	Data Quality	Comments					
U _i	Use of MEK in adhesive	954	EE	A	Door trim adhesive 20% vinyl edge wrapping	A ₁	Release to air	954	EE	A	Component of Li-Bond YA2111-1					
		50	EE	A		A ₂	Release to air	50	EE	A	Component of Li-Bond YA2111-1					
	Subtotal							1,004								
	Input-Output balance							0.0	Reasonable balance.							
U	Use of MEK as solvent	384	EE	A	Line clean out	A	Release to air	384	MB	A	Pure MEK					
						Subtotal							384			
						Input-Output balance							0.0	Reasonable balance.		
U	Use of MEK in touch-up paint	3	EE	A	Touch up	A	Release to air	3	MB	A	Component of Red Spot					
						Subtotal							3			
						Input-Output balance							0.0	Reasonable balance.		
Total Inputs		1,391				Total Outputs		1,391								

- DATA QUALITY LEVEL

H

High

AA

Above average

A

Average

U

Uncertain

NOMENCLATURE

A

On-site release of toxic substance to *Air*

DIS

On-site or off-site *disposal* of toxic substance

U

Use of a toxic substance

Int

Intermediate step containing substance

TR

Transfer of substance off-site

EE

Engineering Estimate

MB

Mass Balance

EF

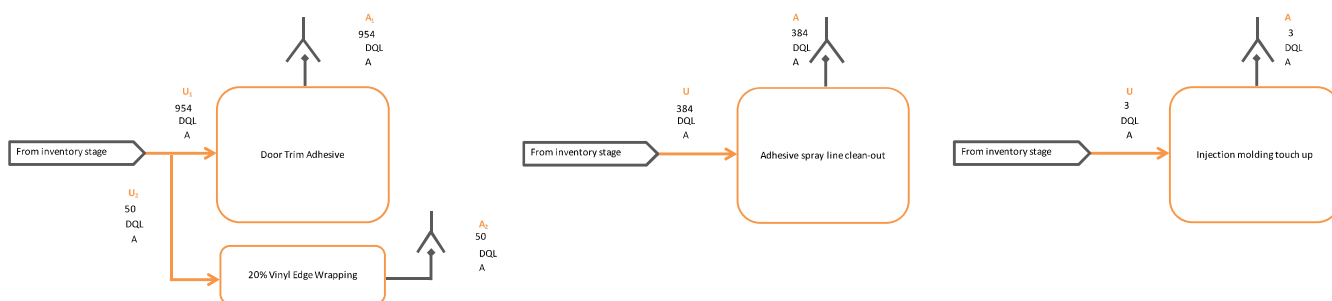
Emission Factor

Rationale for Estimation Method Used	
Engineering Estimate	Calculated use of MEK from MSDS sheets and purchase record because they are the most accurated data available.
Mass Balance	Used because it is assumed that all MEK volatalizes to air during the adhesive drying process.


Process Description: Methyl ethyl ketone (MEK)

MEK is a component of Bostik LADH1211-59L, which is an adhesive used to adhere soft-touch door trim to door panels. The adhesive is sprayed onto the parts using a robot, and it is estimated that 1004 kg of MEK was used in the adhesive process in 2015 and that 100% was emitted to air. Bostik is also used in the 20% vinyl edge wrapping process; it is applied using a brush. It is estimated that 50 kg of MEK was used in the 20% vinyl edge wrapping process and that 100% of it was emitted to air. A small quantity of MEK (3 kg) was used in Red Spot 22M45+22M47, which is used to make spot repairs in the injection molding process. It is assumed that 100% of the MEK in Red Spot is emitted to air.

All quantities are in kg/year



LEGEND	
---	Absence of toxic substance
→	Onsite or offsite release, or offsite transfer of a toxic substance, either in its original form or in another form
→	Presence of toxic substance
D	Destruction of toxic substance
A	Onsite release of toxic substance to Air
C	Creation of toxic substance
DIS	Onsite or offsite disposal of toxic substance
U	Use of a toxic substance
I	Input of a toxic substance from another process
O	Output of a toxic substance to another process
t	Transfer of a toxic substance within this process
DQL	Data Quality Level
AA	Above average
A	Average

 Enviro-Stewards Engineers & Scientists	TOXIC SUBSTANCE(S):	MEK
	DRAWING TITLE:	MEK processes
	DATE OF ISSUE:	1-Jun-16

PM 2.5 BALANCE

Input				Process	Output				
Item	Quantity (kg/yr)	Estimation Method Used	Data Quality	Item	Item	Quantity (kg/yr)	Estimation Method Used	Data Quality	Comments
- N/A	-	-	-	Welding	C Created	203	EE	A	
					Subtotal	203			
					Input-Output balance	N/A	PM 2.5 is created, therefore no balance is calculated.		
- N/A	-	-	-	Diesel generator	C Created	2.8	EE	A	
					Subtotal	2.8			
					Input-Output balance	N/A	PM 2.5 is created, therefore no balance is calculated.		
- N/A	-	-	-	Spray booth	C Created	2.4	EE	A	
					Subtotal	2.4			
					Input-Output balance	N/A	PM 2.5 is created, therefore no balance is calculated.		
- N/A	-	-	-	Natural gas combustion	C Created	19	EE	A	
					Subtotal	19			
					Input-Output balance	N/A	PM 2.5 is created, therefore no balance is calculated.		
Total Inputs		-		Total Outputs		227			

Input/Output Balance

Reasonable?

Not applicable.

DATA QUALITY LEVEL

H High
AA Above average
A Average
U Uncertain

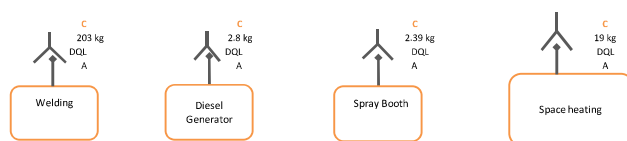
NOMENCLATURE

A	On-site release of toxic substance to <i>Air</i>
DIS	On-site or off-site <i>disposal</i> of toxic substance
U	<i>Use</i> of a toxic substance
Int	<i>Intermediate</i> step containing substance
TR	<i>Transfer</i> of substance off-site
EE	Engineering Estimate
MB	Mass Balance
EF	Emission Factor

Rationale for Estimation Method Used	
Engineering Estimate	Based on NPRI report, as it is the most accurate data source.

Process Description: Particulate matter (PM 2.5)

PM 2.5 is created in the welding, diesel generator, spray booth, and space heating (natural gas combustion) processes.



LEGEND

---	Absence of toxic substance
→	Onsite or offsite release, or offsite transfer of a toxic substance, either in its original form or in another form
→	Presence of toxic substance
D	Destruction of toxic substance
A	Onsite release of toxic substance to Air
C	Creation of toxic substance
DIS	Onsite or offsite disposal of toxic substance
U	Use of a toxic substance
I	Input of a toxic substance from another process
O	Output of a toxic substance to another process
t	Transfer of a toxic substance within this process
DQL	Data Quality Level
AA	Above average
A	Average



TOXIC SUBSTANCE(S):	PM 2.5
DRAWING TITLE:	PM2.5 Processes
DATE OF ISSUE:	1-Jun-16

Attachment A



National Pollutant Release Inventory (NPRI) and



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[SWIM](#) [2015](#) [Toyota Boshoku Canada Inc.](#) [TB - Elmira](#) [Report Preview](#)

Report Preview

Report Details

Report Year	2015
Report Type:	NPRI,ON MOE TRA
Report Status:	Submitted
Modified Date/Time:	30/05/2016 4:03 PM

Company and Facility Details

Company Name:	Toyota Boshoku Canada Inc.
---------------	----------------------------

Mailing Address:

Address Line 1: 45 Southfield Drive
City, Province/Territory, Postal Code: Elmira Ontario N0B2S0
Country: Canada

Facility Name:

TB - Elmira

NAICS Code:

332999

NPRI ID:

11074

Physical Address:

Address Line 1: 45 Southfield Drive Drive
City, Province/Territory, Postal Code: Elmira Ontario N3B3L6
Country: Canada
Latitude: 43.36600
Longitude: -80.17450
UTM Zone: 17
UTM Easting: 535870
UTM Northing: 4825600

Contacts Details

Contact Type	Technical Contact
Name:	Jason Psutka
Position:	Plant Engineering and Environmental Officer

Mailing Address:

Address Line 1: 45 Southfield Drive
City, Province/Territory, Postal Code: Elmira Ontario N3B3L6
Country: Canada

Contact Type

Certifying Official

Name:

Jason Psutka

Position:

Plant Engineering and Environmental Officer

Mailing Address: Address Line 1: 45 Southfield Drive
City, Province/Territory, Postal Code: Elmira Ontario N3B3L6
Country: Canada

Contact Type Highest Ranking Employee

Name: Ulrich Borths

Position: Plant Manager

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: Project Manager

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: 540

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

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

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

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

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

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

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

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

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

Usual Number of Operating Hours per day: 19

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

Substance List

CAS RN	Substance Name	Releases	Releases (Speciated VOCs)	Disposals	Recycling	Unit
78-93-3	Methyl ethyl ketone	1.3910	N/A	N/A	N/A	tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.2770	N/A	N/A	N/A	tonnes
NA - M16	Volatile Organic Compounds (VOCs)	10.0960	4.8800	N/A	N/A	tonnes

Applicable Programs

CAS RN	Substance Name	NPRI	ON MOE TRA	ON MOE Reg 127/01	First report for this substance to the ON MOE TRA
78-93-3	Methyl ethyl ketone	Yes	Yes		No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	No		No
NA - M16	Volatile Organic Compounds (VOCs)	Yes	Yes		Yes

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
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
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
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	Quantity	Use ranges for public reporting
78-93-3	Methyl ethyl ketone	Use	1.391 tonnes	Yes
78-93-3	Methyl ethyl ketone	Creation	0 tonnes	No
78-93-3	Methyl ethyl ketone	Contained	0 tonnes	No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Use	0 tonnes	No
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Creation	0.277 tonnes	Yes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Contained		
NA - M16	Volatile Organic Compounds (VOCs)	Use	10.096 tonnes	Yes
NA - M16	Volatile Organic Compounds (VOCs)	Creation	0 tonnes	No
NA - M16	Volatile Organic Compounds (VOCs)	Contained		

TRA Quantifications - VOC Breakdown List

CAS RN	Substance Name	Use, Creation, Contained	Quantity
95-63-6	1,2,4-Trimethylbenzene	Creation	0 tonnes
141-78-6	Ethyl acetate	Use	1.634 tonnes
NA - 31	Heptane (all isomers)	Use	0.73 tonnes
67-63-0	Isopropyl alcohol	Use	0.003 tonnes
64742-95-6	Light aromatic solvent naphtha	Use	0.403 tonnes
67-56-1	Methanol	Use	0.502 tonnes
78-93-3	Methyl ethyl ketone	Use	1.391 tonnes
74-98-6	Propane	Use	0.026 tonnes
108-88-3	Toluene	Use	0.017 tonnes
1330-20-7	Xylene (all isomers)	Use	0.014 tonnes

TRA Quantifications - Total Speciated VOCs

Use, Creation, Contained	Quantity
Use	4.720 tonnes
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	Incidents out of the normal course of events	Significant Process Change
78-93-3	Methyl ethyl ketone					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
78-93-3	Methyl ethyl ketone	Stack or Point Releases	O - Engineering Estimates		1,391 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Stack or Point Releases	O - Engineering Estimates		0.277 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Stack or Point Releases	O - Engineering Estimates		10.096 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	Other Sources - Speciated VOCs	NA - Not Applicable		10.096 tonnes

On-site Releases - Releases to air - Total

CAS RN	Substance Name	Total - Releases to Air
78-93-3	Methyl ethyl ketone	1,391 tonnes
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	0.277 tonnes
NA - M16	Volatile Organic Compounds (VOCs)	10.096 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	1.634 tonnes
Other Sources - Speciated VOCs	NA - 31	Heptane (all isomers)	0.73 tonnes
Other Sources - Speciated VOCs	64742-47-8	Hydrotreated light distillate	0.16 tonnes
Other Sources - Speciated VOCs	67-63-0	Isopropyl alcohol	0.003 tonnes
Other Sources - Speciated VOCs	64742-95-6	Light aromatic solvent naphtha	0.403 tonnes
Other Sources - Speciated VOCs	67-56-1	Methanol	0.502 tonnes
Other Sources - Speciated VOCs	78-93-3	Methyl ethyl ketone	1.391 tonnes
Other Sources - Speciated VOCs	74-98-6	Propane	0.026 tonnes
Other Sources - Speciated VOCs	108-88-3	Toluene	0.017 tonnes
Other Sources - Speciated VOCs	1330-20-7	Xylene (all isomers)	0.014 tonnes

On-site Releases - Total

CAS RN	Substance Name	Total releases
78-93-3	Methyl ethyl ketone	1,391 tonnes

On-site Releases - Quarterly Breakdown of Annual Releases

CAS RN	Substance Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
78-93-3	Methyl ethyl ketone				

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 - M10	PM2.5 - Particulate Matter <= 2.5 Microns												
NA - M16	Volatile Organic Compounds (VOCs)												

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

CAS RN	Substance Name	Reasons for Changes in Quantities Disposed from Previous Year	Comments (Disposals)
78-93-3	Methyl ethyl ketone	Changes in production levels	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Changes in production levels	
NA - M16	Volatile Organic Compounds (VOCs)	Changes in production levels	

Disposals - Reasons and Comments

CAS RN	Substance Name	Reasons Why Substance Was Disposed	Reasons for Changes in Quantities Disposed from Previous Year	Comments (Disposals)
78-93-3	Methyl ethyl ketone		Other (specify in On-site Releases 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
78-93-3	Methyl ethyl ketone		Other (specify in recycling comments 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
78-93-3	Methyl ethyl ketone	No	Enters the facility (Use)	1,391 tonnes	0,880 tonnes	2014	0,511	58.07
78-93-3	Methyl ethyl ketone	No	Creation	0 tonnes	0 tonnes	2014	0	
78-93-3	Methyl ethyl ketone	No	Contained	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Enters the facility (Use)	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Creation	0,277 tonnes	0,246 tonnes	2014	0,031	12.60

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

CAS RN	Substance Name	Reason(s) for Change	Other Reason
78-93-3	Methyl ethyl ketone	Increase in production levels	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Increase in production levels	

Comparison Report - On-site Releases

CAS RN	Substance Name	Is Breakdown	Category	Quantity	Last Reported Quantity	Reporting Period of Last Reported Quantity	Change	% Change
78-93-3	Methyl ethyl ketone	No	Total Releases to Air	1,391 tonnes	0 tonnes	2014	1,391	100
78-93-3	Methyl ethyl ketone	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
78-93-3	Methyl ethyl ketone	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
78-93-3	Methyl ethyl ketone	No	Total Releases to All Media	0 tonnes	0.88 tonnes	2014	-0.88	-100
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Air	0,277 tonnes	0,246 tonnes	2014	0,031	12.60
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Water	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to Land	0 tonnes	0 tonnes	2014	0	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	No	Total Releases to All Media	0 tonnes	0 tonnes	2014	0	

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

CAS RN	Substance Name	Reason(s) for Change	Other Reason
78-93-3	Methyl ethyl ketone	Increase in production levels	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Increase in production levels	

Progress on TRA Plan - Objectives

CAS RN	Substance Name	Objectives
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 - 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 - Targets

CAS RN	Substance Name	Quantity	Years	Description of Target
78-93-3	Methyl ethyl ketone	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 - Description

CAS RN	Substance Name	Quantity	Years	Description of Target
78-93-3	Methyl ethyl ketone	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	Public summary of the description of the steps	Public summary of the comparison of the steps
78-93-3	Methyl ethyl ketone	Other	A review of how we handle empty glue pails was undertaken and it was determined that this countermeasure is not necessary because common practice is to drain the near-empty container in to the next full one.	A review of how we handle empty glue pails was undertaken and it was determined that this countermeasure is not necessary because common practice is to drain the near-empty container in to the next full one.
78-93-3	Methyl ethyl ketone	Other	A lid was added to the clean-out collection bucket to reduce the evaporation rate of the cleaning chemical, thus ensuring reduced emissions to air.	A lid was added to the clean-out collection bucket to reduce the evaporation rate of the cleaning chemical, thus ensuring reduced emissions to air.
78-93-3	Methyl ethyl ketone	Other	A review of the operating procedure governing the use of MEK was undertaken.	A review of the operating procedure governing the use of MEK was undertaken.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Modified equipment, layout or piping	A review of exhaust requirements was started, but process was discontinued.	A review of exhaust requirements was started, but process was discontinued.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	Other	A drawing review and comparison to actual condition yielded a reduction in weld length.	A drawing review and comparison to actual condition yielded a reduction in weld length.
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	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.

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

CAS RN	Substance Name	Activity	Reductions due to Options Implemented	Quantity
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CAS RN Substance Name Activity Reductions due to Options Implemented Quantity

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

CAS RN Substance Name Activity Reductions due to Options Implemented Quantity

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 Quantity

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

CAS RN Substance Name Activity Reductions due to Options Implemented Quantity

Progress on TRA Plan - Reductions due to Options Implemented - Spill or leak prevention

CAS RN Substance Name Activity Reductions due to Options Implemented Quantity

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

CAS RN	Substance Name	Provide a public summary of the description of the additional action taken
78-93-3	Methyl ethyl ketone	
NA - M10	PM2.5 - Particulate Matter <= 2.5 Microns	

Progress on TRA Plan - Reductions due to additional actions taken

CAS RN	Substance Name	Reductions due to additional actions taken	Quantity
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Progress on TRA Plan - Amendments

CAS RN	Substance Name	Were any amendments made to the toxic substance reduction plan during the reporting period
78-93-3	Methyl ethyl ketone	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 MOE TRA - Electronic Certification Statement

Annual Report Certification Statement

As of 30/05/2016, 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

78-93-3

Methyl ethyl ketone

NA - M10

PM2.5 - Particulate Matter <= 2.5 Microns

NA - M16

Volatile Organic Compounds (VOCs)

Company Name

Toyota Boshoku Canada Inc.

Highest Ranking Employee

Ulrich Borths

Report Submitted by

Jason Psutka

Website address

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

Submitted Report

Period

2015

Submission Date

30/05/2016

Facility Name

TB - Elmira

Province

Ontario

City

Elmira

Programs

NPRI,ON MOE TRA

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

Version: 3.10.0



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