

The Toxics Reduction Act (the Act) and associated Ontario Regulation 455/09 (O. Reg. 455/09) was introduced in the Province of Ontario in 2010; the Act requires regulated facilities to complete the following tasks.

1. Track, quantify and report annually on the toxic substances they use, create, release, dispose, transfer and contain in products.
2. Develop plans to reduce the use and creation of these substances.
3. Make annual reports and summaries of their plans available to their employees and the public.

Section 1: General Facility Information

Business Name:	Bombardier Inc.
Street / Mailing Address:	800 Rene-Leveque Boulevard, Montreal, Quebec H3B 1Y8
% Ownership:	100%
Facility Name:	Bombardier Inc. Thunder Bay Plant.
Street / Mailing Address:	1001 Montreal Street, Thunder Bay, Ontario P7C 4V6
2 Digit, 4 Digit and 6 Digit NAICS ID:	33, 3365, 336510
NPRI ID:	0000005601
UTM Easting / UTM Northing:	328397 / 5359686
Number of Employees:	1137
Public/Technical Contact:	Lindsay Fenton Director of Technical Services 1001 Montreal Street Thunder Bay, Ontario P7C 4V6 (807) 475-2800
Company Certifying Official:	Lindsay Fenton Head of Technical Services 1001 Montreal Street Thunder Bay, Ontario P7C 4V6 (807) 475-2800
Company Highest Ranking Employee:	David Black General Manager 1001 Montreal Street Thunder Bay, Ontario P7C 4V6 (807) 475-1862

Section 2: Prescribed Toxic Substances On-Site

Nineteen (19) toxic substances were identified to be reported on a facility wide basis under O. Reg. 455/09. Two (2) substances did not meet the reporting requirements for NPRI in the 2017 operating year. However, Bombardier voluntarily reported these substances to Environment Canada. A summary of the substances is identified in Table 1 below. A summary of the reasons for changes in quantification of substances between calendar years is also provided on the following page.

TRA Exit records were completed for **Ethanol** and **Methyl Isobutyl Ketone**.

Table 1: Substances Reported on a Facility Wide Basis

Substance Name	Reporting Year	CAS	Use	Creation	Contained in Product	Releases to Air	Transfers	Disposals
			tonnes					
n-Butyl Acetate	2017	123-86-4	2.47	0	0	2.47	0	0
	2016		3.80	0	0	3.80	0	0
	Change		-1.33	0	0	-1.33	0	0
	% Change		-35	0	0	-35	0	0
Chromium (and its compounds)	2017	NA-04	30.79	0	30.79	0.0079	20.00	0.0787
	2016		25.95	0	25.95	0.0079	22.62	0.0570
	Change		4.84	0	4.84	0	-2.62	0.0218
	% Change		18.65	0	18.65	0	-11.58	38.25
Copper (and its compounds)	2017	NA-06	33.31	0	33.31	0.0140	58.40	0.0003
	2016		11.41	0	11.41	0.0140	32.46	0
	Change		21.9	0	21.9	0	25.94	0.0003
	% Change		191.94	0	191.94	0	79.91	100
Hydrotreated Heavy Naphtha	2017	64742-48-9	2.21	0	0	2.21	0	0
	2016		1.50	0	0	1.50	0	0
	Change		0.71	0	0	0.71	0	0
	% Change		47.33	0	0	47.33	0	0
Hydrotreated Light Distillate ^[3]	2017	64742-47-8	1.43	0	0	1.43	0	0
	2016		--	0	0	--	0	0
	Change		1.43	0	0	1.43	0	0
	% Change		100	0	0	100	0	0
Ethyl Acetate	2017	141-78-6	7.70	0	0	7.70	0	0
	2016		7.90	0	0	7.90	0	0
	Change		-0.20	0	0	-0.2	0	0
	% Change		-2.53	0	0	-2.53	0	0
Isopropyl Alcohol	2017	67-63-0	4.87	0	0	4.87	0	0
	2016		3.51	0	0	3.51	0	0
	Change		1.36	0	0	1.36	0	0
	% Change		38.75	0	0	38.75	0	0
Manganese (and its compounds)	2017	NA-09	15.90	0	15.90	0.014	17.27	0.0006
	2016		13.96	0	13.96	0.014	13.02	0.00
	Change		1.94	0	1.94	0	4.25	0.0006
	% Change		13.9	0	13.9	0	32.64	100
Methanol	2017	67-56-1	9.67	0	0	9.67	0	0
	2016		8.27	0	0	8.27	0	0
	Change		1.4	0	0	1.40	0	0
	% Change		16.93	0	0	16.93	0	0
Methyl Ethyl Ketone	2017	78-93-3	12.65	0	0	12.65	6.56	0
	2016		9.89	0	0	9.89	5.33	0
	Change		2.76	0	0	2.76	1.23	0
	% Change		27.91	0	0	27.91	23.08	0
Nickel (and its compounds)	2017	NA-11	41.05	0	41.05	0.016	24.15	0.0016
	2016		28.49	0	28.49	0.016	25.66	0.00
	Change		12.56	0	12.56	0	-1.51	0.0016
	% Change		44.09	0	44.09	0	-5.88	100
Zinc (and its compounds)	2017	NA-14	43.21	0	43.21	0.029	3.91	0.0001
	2016		15.20	0	15.20	0.029	3.75	0.00
	Change		28.01	0	28.01	0	0.16	0.0001
	% Change		184.28	0	184.28	0	4.27	100
PM2.5 ^{[2] [3]}	2017	NA-M10	0	0.262	0	0.2620	0	0
	2016		0	0.243	0	0.2435	0	0
	Change		0	0.019	0	0.019	0	0
	% Change		0	7.82	0	7.60	0	0
PM10 ^[2]	2017	NA-M09	0	1.19	0	1.190	0	0
	2016		0	1.14	0	1.137	0	0
	Change		0	0.05	0	0.053	0	0
	% Change		0	4.39	0	4.66	0	0
Solvent Naphtha Medium Aliphatic	2017	64742-88-7	2.40	0	0	2.40	0	0
	2016		--	--	--	--	--	--
	Change		2.40	0	0	2.40	0	0
	% Change		100	0	0	100	0	0
Toluene	2017	108-88-3	33.86	0	0	33.86	21.34	0
	2016		22.29	0	0	22.29	12.80	0
	Change		11.57	0	0	11.57	8.54	0
	% Change		51.91	0	0	51.91	66.72	0
Xylene (all isomers)	2017	1330-20-7	1.83	0	0	1.83	0	0
	2016		3.32	0	0	3.32	0	0
	Change		-1.49	0	0	-1.49	0	0
	% Change		-44.88	0	0	-44.88	0	0
Lead (and its compounds) ^[1]	2017	NA-08	3566.23	0	3566.23	4.66	2425.36	0
	2016		755.87	0	755.87	4.64	1043.20	0
	Change		2810.36	0	2810.36	0.2	1382.16	0
	% Change		371.8	0	371.8	0.43	132.49	0
Selenium (and its compounds) ^{[1] [3]}	2017	NA-12	21.61	0	21.61	0	7.31	0
	2016		31.44	0	31.44	0	13.79	0
	Change		-9.83	0	-9.83	0	-6.48	0
	% Change		-31.27	0	-31.27	0	-46.99	0
Cobalt (and its compounds) ^[1]	2017	NA-05	1834.58	0	1834.58	1.61	159.91	0.086
	2016		489.48	0	489.48	1.61	128.18	0
	Change		1345.1	0	1345.1	0	31.73	0.086
	% Change		274.8	0	274.8	0	24.75	100
Stoddard Solvent	2017	8052-41-3	2.10	0	0	2.10	0	0
	2016		1.37	0	0	1.37	0	0
	Change		0.73	0	0	0.73	0	0
	% Change		53.28	0	0	53.28	0	0

Notes:

[1] Substances in bold and italics are reportable to the NPRI in kilograms

[2] Quantities include road dust for particulate matter

[3] Substances that did not meet the reporting requirements for NPRI, Bombardier Inc. has voluntarily reported this information to Environment Canada.

Section 3: Summary of Changes

A summary of reasons for changes in quantification of substances include:

- **Metals** –The changes in contaminant concentrations, quantities purchased and/or recycled contribute to the changes in reportable air emissions and transfers offsite for recycling.
- **VOCs** - The changes in contaminant concentrations and quantities purchased contribute to the changes in reportable air emissions.
- **PM_{2.5} and PM₁₀** - Air emission releases from process and unpaved roadway both decreased due to a decrease in process equipment operating days and operating hours.

Section 4: Toxic Substance Reduction Comparison to Plan

Table 2 contains an update of the toxic substance reduction plans submitted under O. Reg. 455/09.

Table 2: 2017 Toxic Substance Plans – Bombardier Inc. Thunder Bay Plant

Substance Name	CAS#	Objectives/Reduction/Comparison to Plan
Chromium (and its compounds)	NA-04	OBJECTIVES: Implement reduction options that consider equipment or process modification, inventory management/purchasing techniques and training or improved operating practices. REDUCTIONS: No actions were implemented for reduction in the 2017 reporting year. COMPARISON TO PLAN: Equipment or process modification - Optimized nesting techniques and material cutting operations as per plan schedule. Inventory management/purchasing techniques - New inventory management system implemented. Improved operating practices – No additional steps were taken in the reporting period.
Copper (and its compounds)	NA-06	
Cobalt (and its compounds)	NA-05	
Selenium (and its compounds)	NA-12	
Manganese (and its compounds)	NA-09	
Nickel (and its compounds)	NA-11	
Zinc (and its compounds)	NA-14	
Lead (and its compounds)	NA-08	
Toluene	108-88-3	OBJECTIVES: Implement reduction options that consider equipment or process modification, inventory management/purchasing techniques and training or improved operating practices. REDUCTIONS: The facility intends to reduce the use of Toluene by 70% or 6.64 tonnes by December 31, 2016. No reductions were achieved in the reporting period as per plan. Equipment will be removed from service as it does not meet the performance expectations as per manufactures' specifications. COMPARISON TO PLAN: Equipment or process modification – Solvent Recovery System purchased and installation completed. Equipment will be removed from service as it does not meet the performance expectations as per manufactures' specifications Inventory management/purchasing techniques - New inventory management system implemented as per plan schedule. Improved operating practices – No steps were taken in the reporting period to implement this option.
Xylene (all isomers)	1330-20-7	OBJECTIVES: Implement reduction options that consider inventory management/purchasing techniques and training or improved operating practices. REDUCTIONS: No actions were implemented for reduction in the 2017 reporting year. COMPARISON TO PLAN: Inventory management/purchasing techniques - New inventory management system implemented as per plan schedule. Improved operating practices – No steps were taken in the reporting period to implement this option.
PM10 – Particulate Matter <=10 Microns	NA – M09	OBJECTIVES: Implement reduction options that consider improved operating practices. REDUCTIONS: Dust suppressant applied summer of 2017. COMPARISON TO PLAN: Improved operating practices – Calcium application annually to unpaved roadways.
PM2.5 – Particulate Matter <=2.5 Microns	NA – M10	OBJECTIVES: Implement reduction options that consider improved operating practices. REDUCTIONS: Dust suppressant applied summer of 2017. COMPARISON TO PLAN: Improved operating practices – Calcium application annually to unpaved roadways.
2-Butoxyethanol	111-76-2	OBJECTIVES: Bombardier Inc. – Thunder Bay Plant in compliance with the Toxics Reduction Act (2009) and O.Reg. 455/09, does not intend to reduce the use of 2-Butoxyethanol, Stoddard solvent. Ethyl acetate, Ethylene glycol butyl ether acetate, Hydrotreated heavy naphtha, Isopropyl alcohol, methanol, Methyl ethyl ketone, Methyl isobutyl ketone, n-Butyl acetate, Solvent naphtha medium aliphatic as no option was determined to be technically or economically feasible under the plan.
Stoddard solvent	8052-41-3	
Ethyl acetate	141-78-6	
Ethylene glycol butyl ether acetate	112-07-2	
Hydrotreated heavy naphtha	64742-48-9	
Isopropyl alcohol	67-63-0	
Methanol	67-56-1	
Methyl ethyl ketone	78-93-3	
Methyl isobutyl ketone	108-10-1	
n-Butyl acetate	123-86-4	
Solvent naphtha medium aliphatic	64742-88-7	

Section 5: Certification by Highest Ranking Employee

As of June 1, 2018, I, David Black certify that I have read the report on the toxic substance tracking, accounting and reporting for the toxic substances referred to above and am familiar with its contents, and to my knowledge the information contained in the report is factually accurate and the report complies with the Toxics Reduction Act, 2009 and O. Reg. 455/09 (General) made under that Act.



David Black
General Manager
Bombardier Inc.