Toxics Reduction Act – Public Summary Report – 2018 Reporting Year

Ford Motor Company – Oakville Assembly Complex

A. FACILITY INFORMATION

The Oakville Assembly Complex operates as an automotive assembly plant for the production of the Ford Edge, Ford Flex, Lincoln MKX and Lincoln MKT. The main facility processes consist of body building, painting and assembly.

Address	The Canadian Road Oakville, Ontario L6J 5C9
Spatial Coordinates	Zone 17, 607468 m E, 4816131 m N
NPRI/MOECC IDs	NPRI = 3419 MOECC = 6763
No. of Employees	4,859
Primary Operation	Automobile Assembly Plant
NAICS Code(s)	33 – Manufacturing 3361 – Motor Vehicle Manufacturing 336110 - Automobile and Light Duty Motor Vehicle Manufacturing
Facility Contact	Mr. Cary Holt Ford Motor Company Environmental Quality Office 290 Town Center Drive Suite 800 Dearborn, Michigan 48126 Phone: (313) 938-6055 Email: cholt2@ford.com
Parent Company	Ford Motor Company of Canada, Limited The Canadian Road Oakville, Ontario L6J 5E4

B. TOXIC SUBSTANCE ACCOUNTING

Substances Reported	CAS#	Primary Use/Source
NPRI Part 1 Substances		
Di-2-ethylhexyl phthalate	117-81-7	Sealers
Ethylbenzene	100-41-4	Solvents
Ethylene glycol	107-21-1	Radiator coolant
Ethylene glycol monobutyl ether	111-76-2	Solvents / E-coat
Isopropanol	67-63-0	Paints / solvents
Methyl alcohol	67-56-1	Windshield wash solution
Methyl isobutyl ketone	108-10-1	Solvents / E-coat
Nitric acid	7697-37-2	Phosphate coating
n-Butyl alcohol	71-36-3	Solvents
Sodium nitrite	7632-00-0	Phosphate coating/radiator coolant
1,2,4-Trimethylbenzene	95-63-6	Paints / solvents
Xylene	1330-20-7	Paints / solvents
Zinc (and its compounds)	n/a	Vehicle body / sealers
NPRI Part 4 Substances		
NO_x	11104-93-1	Fuel combustion
CO	630-08-0	Fuel combustion
PM_{10}	n/a	Spray coating / fuel combustion
$PM_{2.5}$	n/a	Spray coating / fuel combustion
NPRI Part 5 Substances		
Butane	n/a	Fuel combustion
Heavy aromatic solvent naphtha	64742-94-5	Paints / solvents
Hexane	n/a	Fuel combustion
Hydrotreated heavy naphtha	64742-48-9	Paints / solvents

Substances Reported	CAS#	Primary Use/Source
Hydrotreated light distillate	64742-47-8	Paints / solvents
Light aromatic solvent naphtha	64742-95-6	Paints / solvents
n-Butyl acetate	123-86-4	Paints / solvents
n-Heptane	142-82-5	Paints / solvents
Pentane	n/a	Fuel combustion
Propane	74-98-6	Fuel combustion
Solvent Naptha Medium Aliphatic	64742-88-7	Solvents
Toluene	108-88-3	Paints / solvents
Trimethylbenzene	25551-13-7	Paints / solvents
O.Reg. 127/01 Substances		
None		

Accounting Details

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Di-2-ethylhexyl phthalate					
Used	>10 to 100	>10 to 100	>1 to 10	25%	Increased production and usage of Sealer product.
Created	n/a	n/a	n/a	n/a	
Contained in Product	n/a	n/a	n/a	n/a	
Released to Air	0.717	0.899	0.183	25%	
Released to Water	n/a	n/a	n/a	n/a	
Transfer for Disposal	0.181	0.227	0.046	25%	
Transfer for Recycle	n/a	n/a	n/a	n/a	
Ethylbenzene					
Used	>10 to 100	>10 to 100	(-)>10 to 100	-13%	Decreased production and usage of products containing ethylbenzene.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	19.754	18.05	(-)1.705	-9%	
Released to Water	0	0	n/a	n/a	
Transfer for Disposal	0.002	0.002	0.0003	13%	Increase in disposal amount due to assumed scrappage rate and increased usage of general use products containing ethylbenzene.
Transfer for Recycle	58.216	49.747	(-)8.469	-15%	Decreased quantity of ethylbenzene recovered in the spent purge solvent.
Ethylene glycol					
Used	>1,000 to 10,000	>1,000 to 10,000	(-)>10 to 100	-7%	Decreased production and usage of engine coolant.
Created	0	0	n/a	n/a	
Contained in Product	>1,000 to 10,000	>1,000 to 10,000	(-)>10 to 100	-7%	
Released to Air	0	0	n/a	n/a	No significant change in air releases.
Released to Water	0	0	n/a	n/a	
Transfer for Disposal	0.109	0.102	(-)0.007	-7%	Decreased production and usage of engine coolant.
Transfer for Recycle	0	0	n/a	n/a	No change in off-site recycles.
Ethylene glycol monobutyl ether					

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Used	>10 to 100	>10 to 100	(-)>1 to 10	-8%	Decreased usage of products containing EGME.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	7.784	6.437	(-)1.347	-17%	
Released to Water	0	0	n/a		
Transfer for Disposed	0.135	0.108	(-)0.027	-20%	Decreased usage of general use products containing EGME.
Transfer for Recycle	0	0	n/a	n/a	No change in off-site recycles.
Isopropanol					
Used	>10 to 100	>10 to 100	(-)>1 to 10	-12%	Decrease in production and usage of products containing isopropyl alcohol.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	29.498	26.022	(-)3.476	-12%	
Released to Water	0	0	n/a	n/a	
Transfer for Disposal	0.607	0.531	(-)0.076	-13%	Decrease in general use products.
Transfer for Recycle	3.624	3.150	(-)0.475	-13%	Decrease in quantity of isopropyl alcohol recovered in the spent purge solvent.
Methyl alcohol					
Used	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-5%	Decrease in usage of products containing methanol.
Created	0	0	n/a	n/a	
Contained in Product	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-5%	
Released to Air	1.991	2.816	0.824	41%	Increase in the quantity of methanol in spray coatings and decrease in quantity of methanol recovered in the spent purge solvent.
Released to Water	0	0	n/a	n/a	
Transfer for Disposal	0.070	0.082	0.012	17%	Increase in the quantity of methanol in spray coatings and decrease in quantity of methanol recovered in the spent purge solvent, results in an increase disposal due to assumed scrappage rate.

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Transfer for Recycle	3.994	3.348	(-)0.646	-16%	Decrease in quantity of methanol recovered in the spent purge solvent.
Methyl isobutyl ketone					
Used	>10 to 100	>10 to 100	(-)>1 to 10	-9%	Decreased production and usage of purge solvents containing MIBK.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	12.519	10.133	(-)2.386	-19%	
Released to Water	0.00	0	n/a	n/a	
Transfer for Disposal	0.00	0	n/a	n/a	No change in off-site disposals.
Transfer for Recycle	31.675	30.112	(-)1.563	-5%	Decreased quantity of MIBK recovered in the spent purge solvent.
Nitric acid					
Used	>10 to 100	>10 to 100	(-)>1 to 10	-16%	Minor decrease in the usage of nitric acid in phosphate coat. No change in reported release quantities.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	0	0	n/a	n/a	
Released to Water	0	0	n/a	n/a	
Transfer for Disposal	0	0	n/a	n/a	
Transfer for Recycle	0	0	n/a	n/a	
n-Butyl alcohol					
Used	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-6%	Decrease in production and usage of products containing n-butyl alcohol.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	114.2	113.3	(-)0.879	-1%	
Released to Water	0.0	0	n/a	n/a	
Transfer for Disposal	2.638	2.511	(-)0.127	-5%	Decreased production and usage of spray coatings containing n-butyl alcohol resulted in a decreased disposal.
Transfer for Recycle	46.094	36.562	(-)9.532	-21%	Decreased quantity of n-butyl alcohol recovered in the spent purge solvent.

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Sodium nitrite					
Used	>10 to 100	>10 to 100	(-)>0 to1	4%	
Created	0	0	n/a	n/a	
Contained in Product	>0 to 1	>0 to 1	(-)>0 to1	-22%	
Released to Air	n/a	n/a	n/a	n/a	No significant change in air releases.
Released to Water	10.318	10.785	0.467	5%	Increased amount of sodium nitrite used in phosphate coat and released to water.
Transfer for Disposal	0.004	0.003	(-)0.0008	-22%	Small increase in general use products.
Transfer for Recycle	n/a	n/a	n/a	n/a	No significant change in off-site recycles.
1,2,4-Trimethylbenzene					
Used	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-19%	Decreased production and usage of purge solvents containing 1,2,4-Trimethylbenzene.
Created	n/a	n/a	n/a	n/a	
Contained in Product	n/a	n/a	n/a	n/a	
Released to Air	137.6	107.9	(-)29.703	-22%	Decreased production and usage of purge solvents containing 1,2,4-Trimethylbenzene, and a decrease in 1,2,4-TMB recovered in the spent purge solvent.
Released to Water	n/a	n/a	n/a	n/a	
Transfer for Disposal	2.754	2.175	(-)0.580	-21%	Decrease in quantity of 1,2,4-TMB recovered in the spent purge solvent, results in an increase disposal due to assumed scrappage rate.
Transfer for Recycle	87.78	75.74	(-)12.044	-14%	Decreased quantity of 1,2,4-TMB recovered in the spent purge solvent.
Xylene					
Used	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-14%	Decreased production and usage of products containing xylene.
Created	0	0	n/a	n/a	
Contained in Product	0	0	n/a	n/a	
Released to Air	81.1	71.87	(-)9.198	-11%	
Released to Water	n/a	n/a	n/a	n/a	

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Transfer for Disposal	0.103	0.090	(-)0.0130	-13%	Decreased production and usage of products containing xylene.
Transfer for Recycle	249.2	213.0	(-)36.248	-15%	Decrease quantity of xylene recovered in the spent purge solvent.
Zinc (and its compounds)					
Used	>1,000 to 10,000	>1,000 to 10,000	(-)>100 to 1000	-6%	Decreased production and usage of products containing zinc in phosphate coating and sealer departments.
Created	0	0	n/a	n/a	
Contained in Product	>1,000 to 10,000	>1,000 to 10,000	(-)>100 to 1000	-7%	
Released to Air	0.00019	0.0002	(-)0.00002	-6%	No significant change in air release.
Released to Water	0.206	0.206	0.000	0%	
Transfer for Disposal	0.306	0.216	(-)0.089	-29%	Decreased production and usage of products containing zinc in phosphate coating and sealer departments resulted in a decreased disposal.
Transfer for Recycle	9.184	9.949	0.764	8%	Decrease in quantity of scrap metal recycled.
NO_x					
Used	0	0	n/a	n/a	
Created	>10 to 100	>10 to 100	>1 to 10	6%	
Released to Air	66.57	67.20	0.625	1%	No significant change in air releases.
CO					
Used	0	0	n/a	n/a	
Created	>10 to 100	>10 to 100	>1 to 10	5%	
Released to Air	57.75	57.91	0.161	0.3%	No significant change in air releases.
PM_{10}					
Used	0	0	n/a	n/a	No significant change in air releases.
Created	>100 to 1,000	>100 to 1,000	(-)>1 to 10	-4%	
Released to Air	14.99	14.48	(-)0.513	-3%	

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
$PM_{2.5}$					
Used	0	0	n/a	n/a	No significant change in air releases.
Created	>10 to 100	>10 to 100	(-)>0 to 10	-3%	
Released to Air	4.035	3.954	(-)0.081	-2%	
Butane					
Used	0	0	n/a	n/a	
Created	>1 to 10	>1 to 10	0	0%	No significant change in air releases.
Released to Air	1.384	1.384	0	0%	
Heavy aromatic solvent naphtha					
Used	>10 to 100	>10 to 100	(-)>1 to 10	-4%	Decreased production and usage of products containing HASN.
Created	>0 to 1	>0 to 1	n/a	n/a	
Released to Air	9.095	8.714	(-)0.381	-4%	
Hexane					
Used	0	0	n/a	n/a	
Created	>1 to 10	>1 to 10	<0 to 1	0%	No significant change in air releases.
Released to Air	1.186	1.188	0.002	0.2%	
Hydrotreated heavy naphtha					
Used	>10 to 100	>10 to 100	(-)>0 to 1	-1%	Decreased production and usage of products containing HHN.
Created	0	0	n/a	n/a	
Released to Air	6.173	5.862	(-)0.312	-5%	
Hydrotreated light distillate					
Used	>1 to 10	>1 to 10	(-)>0 to1	22%	Increased usage of general use products and WWTP chemicals containing HLD.
Created	n/a	n/a	n/a	n/a	
Released to Air	1.403	1.956	0.553	39%	
Light aromatic solvent naphtha					
Used	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-19%	Decreased production and usage of spray coatings, purge solvents and general use products containing LASN, and a decrease in LASN recovered in the spent purge solvent.
Created	0	0	n/a	n/a	
Released to Air	49.78	37.93	(-)11.858	-24%	
n-Butyl acetate					

Substance/Category	Accounting Quantities				Reason for Change
	2017	2018	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Used	>100 to 1,000	>100 to 1,000	(-)>10 to 100	-17%	Decreased production and usage of products containing n-butyl acetate.
Created	0	0	n/a	n/a	
Released to Air	56.05	55.46	(-)0.586	-1%	
n-Heptane					
Used	>10 to 100	>10 to 100	(-)>1 to 10	-6%	Decreased production and usage of products containing n-heptane.
Created	0	0	n/a	n/a	
Released to Air	13.08	12.28	(-)0.805	-6%	
Pentane					
Used	0	0	n/a	n/a	
Created	>1 to 10	>1 to 10	>0 to 1	0.1%	No significant change in air releases.
Released to Air	1.714	1.715	0.001	0.1%	
Propane					
Used	0	0	n/a	n/a	
Created	>1 to 10	>1 to 10	>0 to 1	0.2%	No significant change in air releases.
Released to Air	1.054	1.056	0.002	0.2%	
Solvent Naptha Medium Aliphatic					
Used	n/a	1.957	n/a	n/a	Increase in the usage of general use products containing SNMA triggers reporting.
Created	n/a	n/a	n/a	n/a	
Released to Air	n/a	1.857	n/a	n/a	
Toluene					
Used	>1 to 10	>1 to 10	(-)>0 to 1	-6%	Decreased production and usage of products containing toluene.
Created	0	0	n/a	n/a	
Released to Air	1.230	1.248	0.017	1%	Slight increase in general use products containing toluene.
Trimethylbenzene					
Used	>10 to 100	>10 to 100	(-)>10 to 100	-18%	Decreased production and usage of spray coatings and purge solvents containing TMB.
Created	0	0	n/a	n/a	
Released to Air	48.79	40.43	(-)8.366	-17%	

C. TOXIC SUBSTANCE REDUCTION PLANNING

Objectives & Targets

Substance	Objectives & Targets	Reduction Option Progress
Asbestos	n/a – no options identified	Asbestos was not reportable for 2015, 2016, 2017 and 2018 reporting years.
Di-2-ethylhexyl phthalate	n/a – no options identified	
Ethylbenzene	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Ethylene glycol	n/a – no options identified	
Ethylene glycol monobutyl ether	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Isobutyl alcohol	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed. Isobutyl alcohol was not reportable for 2016, 2017 and 2018 reporting years.
Isopropanol	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Manganese (and its compounds)	n/a – no options identified	Manganese (and its compounds) was not reportable for 2015, 2016, 2017, and 2018 reporting years.
Methyl alcohol	n/a – no options identified	
Methyl isobutyl ketone	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.

Substance	Objectives & Targets	Reduction Option Progress
Nitric acid	n/a – no options identified	
n-Butyl alcohol	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Sodium nitrite	n/a – no options identified	
Sulphuric acid	n/a – no options identified	Sulphuric acid was not reportable for the 2018 reporting year.
Toluene	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed. Toluene was not reportable as a Part 1 substance for 2016, 2017 and 2018 reporting years. Reportable as a Part 5 VOC.
1,2,4-Trimethylbenzene	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Xylene	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Zinc (and its compounds)	n/a – no options identified	
NO_x	– Reduce the use of natural gas in process and heating combustion equipment.	Continued to implement the steps in the plan.
CO	– Reduce the use of natural gas in process and heating combustion equipment.	Continued to implement the steps in the plan.
PM_{10}	– Reduce the use of spray coatings.	Continued to increase block size.
$PM_{2.5}$	– Reduce the use of spray coatings.	Continued to increase block size.
Butane	– Reduce the use of natural gas in process and heating combustion equipment.	Continued to implement the steps in the plan.
Diethylene glycol monobutyl ether	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all	The planned steps were completed. Diethylene glycol monobutyl ether was not reportable for 2016 2017, and 2018 reporting years.

Substance	Objectives & Targets	Reduction Option Progress
	valves in the paint booths.	
Ethylene glycol monobutyl ether acetate	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Heavy aromatic solvent naphtha	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Hexane	– Reduce the use of natural gas in process and heating combustion equipment.	Continued to implement the steps in the plan.
Hydrotreated heavy naphtha	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Hydrotreated light distillate	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Light aromatic solvent naphtha	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Methyl ethyl ketone	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed, MEK was not reportable for the 2018 reporting year.
n-Butyl acetate	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
n-Heptane	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all	The planned steps were completed.

Substance	Objectives & Targets	Reduction Option Progress
	valves in the paint booths.	
Pentane	– Reduce the use of natural gas in process and heating combustion equipment.	Continued to implement the steps in the plan.
Propane	– Reduce the use of natural gas in process and heating combustion equipment.	Continued to implement the steps in the plan.
Solvent naphtha medium aliphatic	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	Continued to implement the steps in the plan.
Tetrahydrofuran	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed. Tetrahydrofuran releases dropped below 1,000 kg, therefore reporting was not required for 2014 through 2017 reporting years.
Trimethylbenzene	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed.
Acetone	– Continue to transition to low VOC booth cleaners. – Continue to increase block size. – Continue to implement "lockout" practice on all valves in the paint booths.	The planned steps were completed. Acetone was not reportable for 2016, 2017 and 2018 reporting years.

Annual Report Certification Statement

As of June 1, 2019, I certify that I have read the report(s) on the toxic substance reduction plan(s) for the toxic substances included above, and am familiar with its/their contents and to my knowledge the information contained in the report(s) is factually accurate and the report complies/reports comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under the Act.

Ron Prahin, Plant Manager

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(Digital signature on file)