



Toxics Reduction Act – Public Summary Report – 2017 Reporting Year

Ford Essex Engine Plant

A. FACILITY INFORMATION

The Essex Engine Plant machines and assembles engine components to produce complete automotive engine assemblies, including the 5.0L V8 engine. The main facility processes consist of machining, assembly, and engine research, development and testing.

Address	1 Quality Way Windsor, Ontario N9A 6X3
Spatial Coordinates	340918 m E, 4684629 m N
NPRI/MOECC IDs	NPRI = 3886 MOECC = 6376
No. of Employees	1027
Primary Operation	Engine Machining and Assembly Plant, Engine Research, Development and Testing
NAICS Code	33 – Manufacturing 3363 – Motor Vehicle Parts Manufacturing 336310 – Motor Vehicle Gasoline Engine and Engine Parts Manufacturing
Facility Contact	Mr. Robert Niemi Ford Motor Company Environmental Quality Office 290 Town Center Drive Suite 800 Dearborn, Michigan 48126 Phone: (313) 206-8034 Email: rniemi1@ford.com
Parent Company	Ford Motor Company of Canada, Limited 100 The Canadian Road Oakville, Ontario L6J 5E4



B. TOXIC SUBSTANCE ACCOUNTING

Substances Reported	CAS#	Primary Use/Source
<i>NPRI Part 1 Substances</i>		
Copper (and its compounds)	n/a	Machining/assembly
Manganese (and its compounds)	n/a	Machining/assembly
<i>NPRI Part 4 Substances</i>		
Oxides of Nitrogen	11104-93-1	Dynamometer testing/fuel combustion
Carbon Monoxide	630-08-0	Dynamometer testing/fuel combustion
Particulate Matter \leq 10 micron (PM10)	n/a	Machining/assembly/dynamometer testing/fuel combustion/cooling towers
Particulate Matter \leq 2.5 micron (PM2.5)	n/a	Machining/assembly/dynamometer testing/fuel combustion/cooling towers

Accounting Details

Substance/Category	Accounting Quantities				Reason for Change
	2016	2017	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Copper (and its compounds)					
Used	306.0	374.1	68.1	↑22%	Increase in production levels.
Created	0	0	0	0%	n/a
Contained in Product	252.5	312.4	59.9	↑24%	Increase in production levels.
Released to Air	0.069	0.079	0.010	↑14%	Increased production of parts containing copper resulted in increased air release.



Substance/Category	Accounting Quantities				Reason for Change
	2016	2017	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Released to Water	0	0	0	0%	n/a
Transfer for Disposal	0.012	0.004	0.008	↓67%	Decreased copper concentration in the effluent resulted in a decreased disposal.
Transfer for Recycle	52.299	60.128	7.829	↑15%	Increased production of parts containing copper resulted in increased quantity of copper sent for recycling.
Manganese (and its compounds)					
Used	224.8	298.2	73.4	↑33%	Increase in production levels.
Created	0	0	0	0%	n/a
Contained in Product	169.3	223.5	54.2	↑32%	Increase in production levels.
Released to Air	0.022	0.027	0.005	↑25%	Increased production of parts containing manganese resulted in increased air release.
Released to Water	0	0	0	0%	n/a
Transfer for Disposal	0.011	0.005	0.006	↓55%	Decreased manganese concentration in the effluent resulted in a decreased disposal.
Transfer for Recycle	57.941	75.936	17.995	↑31%	Increased production of parts containing manganese resulted in increased quantity of manganese sent for recycling.
Oxides of Nitrogen					
Used	0	0	0	n/a	n/a
Created	63.532	48.609	14.923	↓23%	Decreased Dyno activity and shift from diesel engines to gasoline engines. Also, small decrease in natural gas usage in 2017.
Released to Air	63.532	48.609	14.923	↓23%	Decreased Dyno activity and shift from diesel engines to gasoline engines. Also, small decrease in natural gas usage in 2017.
Carbon Monoxide					
Used	0	0	0	n/a	n/a
Created	523.113	551.902	28.789	↑5%	No significant change.



Substance/Category	Accounting Quantities				Reason for Change
	2016	2017	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Released to Air	523.113	551.902	28.789	↑5%	No significant change.
Particulate Matter ≤ 10 micron (PM10)					
Used	0	0	0	n/a	n/a
Created	68.355	77.806	9.451	↑14%	Increase in production levels.
Released to Air	10.069	10.341	0.272	↑3%	No significant change.
Particulate Matter ≤ 2.5 micron (PM2.5)					
Used	0	0	0	n/a	n/a
Created	37.103	41.746	4.643	↑13%	Increase in production levels.
Released to Air	9.494	9.789	0.295	↑3%	No significant change.

C. TOXIC SUBSTANCE REDUCTION PLANNING

Objectives & Targets

Substance	Objectives & Targets	Reduction Option Progress
Copper (and its compounds)	Reduce the use of Copper (and its compounds) by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	All team leaders and process coaches participated in the Ford Production System (FPS) training which included a review of all FPS elements (safety, quality, delivery, cost, people, maintenance and environment).
Manganese (and its compounds)	Reduce the use of Manganese (and its compounds) by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	



Substance	Objectives & Targets	Reduction Option Progress
Oxides of Nitrogen and Carbon Monoxide	Reduce the creation of Oxides of Nitrogen and Carbon Monoxide by investigating reduced temperature set points for natural gas equipment and instituting operating practices to reduce run-time.	Adjustment of run time based on indoor and outdoor temperatures and forecasts is completed continuously. Large boilers are being shut down earlier in the year and re-started later in the year than has typically been done in the past. Small door heaters are used for supplemental heat if needed. Doors are monitored to ensure they remain closed.
Particulate Matter \leq 10 micron (PM10) and Particulate Matter \leq 2.5 micron (PM2.5)	Reduce the creation of PM10 and PM2.5 by replacing/upgrading a cooling tower (CT-1 or CT-3) at the site and by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	All team leaders and process coaches participated in the Ford Production System (FPS) training which included a review of all FPS elements (safety, quality, delivery, cost, people, maintenance and environment).

Annual Report Certification Statement

As of May 31, 2018, 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.

Tony Savoni, Site Operations Manager

(Digital signature on file)