Ontario Toxics Reduction Act Report (Ontario Regulation 455/09) - Nanticoke Refinery - 2020

Facility Operator
IMPERIAL OIL
Imperial Oil Nanticoke Refinery
225 Concession 2, P.O. Box 500
Nanticoke, ON, N0A1L0

Facility Owner
Imperial Oil Limited
505 Quarry Park Boulevard SE
P.O. Box 2480, Station "M"
Calgary, Alberta T2P 3M9

Additional Facility Information
NPRI ID: 3701 MOE ID: 5091
Number of employees: 558
NAICS 2 Code: 31-33 - Manufacturing
NAICS 4 Code: 3241 - Petroleum & Coal Products Mfg.
NAICS 6 Code: 324110 - Petroleum Refineries
UTM NAD 83 spatial coordinates:17N 578000 4743000

Provincial regulations set out requirements for business owners to inform Ontarians about the use, creation and emissions of reportable substances in their communities. Under the Toxics Reduction Act (TRA), companies are required to post information quantifying these substances each year.

Substances are identified as "toxic" substances for the purposes of the Act if the substance is listed in the National Pollutant Release Inventory (NPRI). The NPRI is a federal database of emissions (to air, land and water) and waste transfers (on-site and offsite) and is available to the public on Environment Canada site (www.ec.gc.ca/inrp-npri). More information on the TRA is available at the Ontario Ministry of the Environment site (www.ontario.ca/page/toxics-reduction-program)

Petroleum refineries process crude oil to manufacture finished products that are used and valued by our society such as gasoline and heating oil. Crude oil may contain varying quantities of the substances covered under the Act. Through the tightly controlled multi-step refinery operation, a variety of substances are used, created and destroyed within contained piping and vessels. Finished products are highly regulated for both content (sulphur levels, for example) and use (pollution controls and higher mileage vehicles).

A petroleum refinery's reporting of the TRA substances will vary depending upon both the type and volume of crude oil processed in a given year. Since petroleum refineries are in the business of processing crude oil, which naturally contains small and varying quantities of the TRA substances, our focus continues to be managing our operations safely and reducing emissions from operations.

This report summarizes tracking and quantification of facility-wide quantities:

- **Used**: Amount of substance that enters the process. Includes amounts already present in raw materials or through addition of products required for processing.
- **Created**: Amount of substance produced during the processing stage.
- **Contained in product**: Amount of substance remaining after process is complete.
- **Emissions**: These are releases of substance from the facility to air, surface water or land, and waste transfers (on-site and offsite).

Starting in 2011, companies are required to report the year-over-year change in these reportable substances. The tables below report the change between the previous year and the reporting year by showing the range and percentage difference. Positive/negative changes for the reporting year indicate an increase/decrease from the previous year.

A summary of reasons behind the change for each reportable substance is provided. The changes fall into the following categories:

- **No significant change / no change**
- **New substance to report**: This substance was not reportable in the previous year.
- **System variability**: There are many combined factors that result in system variability. Substances will vary depending on the feedstocks/raw crudes processed. Variability in operation can also affect the results. Analytical results have uncertainty, which can be increased when measuring low/trace levels.
- **Change in production levels**: Change resulted from an overall increase or decrease in production at the facility. This includes changes due to shut-down and maintenance activities.
- **Improvement of data quality**: Change resulted from continuous improvement of the quality of the data used to calculate the amount of substance.

Toxic substance reduction plans are required to be prepared for all reportable substances, with the exception of Volatile Organic Compounds as a group. This report includes plan objectives, a description of the steps taken during the reporting year to implement the plan, and the associated reductions.

Public Contact:

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Toxic Substance Reduction Plan Stewardship

Report of Tracking and Quantification of Facility-Wide Quantities (kg)

	Substances (Reported in kilograms)	Chemical Abstract Service CAS Registry Number	USED			CREATED			CONTAINED IN PRODUCT			Comments	Reason for Change
			2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE		
Metals	Arsenic	***	>100 to 1,000	<-1,000,000	-100%	-	0	-	>100 to 1,000	<-1,000,000	-100%	These metals are present in raw crude oil in very low concentrations. They may accumulate within refining equiqment and/or leave in the products.	system variability
	Cadmium	***	>10 to 100	<-100 to -1,000	-69%	-	0	-	>100 to 1,000	>10 to 100	11%		system variability
	Lead	***	>100 to 1,000	<-100 to -1,000	-55%	-	0	-	>1,000 to 10,000	>100 to 1,000	7%		system variability
	Mercury	***	>10 to 100	>0 to 1	4%	-	0	-	>10 to 100	<-1 to -10	-8%		no significant change
	Selenium	***	>100 to 1,000	>10 to 100	2%	-	0	-	>0 to 1	0	-		no significant change
Polyaromatic Hydrocarbons (PAH)	Acenaphthene	83-32-9	>100 to 1,000	>100 to 1,000	>100%	>1,000,000	>100,000 to 1,000,000	26%	>100,000 to 1,000,000	<-100,000 to -1,000,000	-56%	These substances are usuallly found in low concentrations in raw crude oil. There is both creation and destruction of PAH occuring in the refinery conversion processes.	system variability
	Acenaphthylene	208-96-8	>10,000 to 100,000	<-10,000 to -100,000	-70%	>10,000 to 100,000	>10,000 to 100,000	66%	>100,000 to 1,000,000	>10,000 to 100,000	5%		system variability
	Fluorene	86-73-7	>10,000 to 100,000	<-100,000 to -1,000,000	-86%	>100,000 to 1,000,000	>100,000 to 1,000,000	64%	>100,000 to 1,000,000	<-100,000 to -1,000,000	-21%		system variability
	Phenanthrene	85-01-8	>100,000 to 1,000,000	<-100,000 to -1,000,000	-30%	>1,000,000	<-100,000 to -1,000,000	-16%	>1,000,000	<-1,000,000	-31%		system variability
	Pyrene	129-00-0	>10,000 to 100,000	<-10,000 to -100,000	-52%	>100,000 to 1,000,000	>100,000 to 1,000,000	100%	>100,000 to 1,000,000	<-10,000 to -100,000	-10%		system variability

Report of Tracking and Quantification of Facility-Wide Quantities (tonnes)

	Substances (Reported in tonnes)	Chemical Abstract Service CAS Registry Number	USED			CREATED			CONTAINED IN PRODUCT			Comments	Reason for Change
			2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE		
PAH	Naphthalene	91-20-3	>1,000 to 10,000	>100 to 1,000	4%	>10,000 to 100,000	>1,000 to 10,000	18%	>1,000 to 10,000	<-100 to -1,000	-12%	Naphthalene is integral to the refining operation and production of quality fuels and chemical feedstocks. It is typically present in crude oil.	system variability
Hydrocarbons	1, 2, 4-Trimethylbenzene	95-63-6	>10,000 to 100,000	<-10,000 to -100,000	-53%	>10,000 to 100,000	>10,000 to 100,000	22%	>10,000 to 100,000	>1,000 to 10,000	4%	These hydrocarbons are integral to the refining operation and production of quality fuels and chemical feedstocks. They are typically present in crude oil.	system variability
	Benzene	71-43-2	>10,000 to 100,000	>1,000 to 10,000	87%	>10,000 to 100,000	>10,000 to 100,000	50%	>10,000 to 100,000	>10,000 to 100,000	31%		system variability
	Butane	***	>10,000 to 100,000	>1,000 to 10,000	14%	>100,000 to 1,000,000	>10,000 to 100,000	11%	>100,000 to 1,000,000	<-100 to -1,000	-1%		system variability
	Butene	25167-67-3	>10,000 to 100,000	<-10,000 to -100,000	-16%	>100,000 to 1,000,000	>10,000 to 100,000	22%	>10,000 to 100,000	>1,000 to 10,000	5%		system variability
	Cresol	1319-77-3	-	0	-	-	0	-	-	0	-		no significant change
	Cycloheptane	***	>10,000 to 100,000	>10,000 to 100,000	31%	>10,000 to 100,000	<-1,000 to -10,000	-10%	>10,000 to 100,000	<-100 to -1,000	0%		system variability
	Cyclohexane	110-82-7	>10,000 to 100,000	>10,000 to 100,000	>100%	>1,000 to 10,000	<-100 to -1,000	-26%	>1,000 to 10,000	<-100 to -1,000	-6%		system variability
	Cylcooctane	***	>10,000 to 100,000	<-1,000 to -10,000	-6%	>10,000 to 100,000	<-1,000 to -10,000	-12%	>10,000 to 100,000	>1,000 to 10,000	5%		system variability
	Decane	***	>10,000 to 100,000	<-100,000 to -1,000,000	-79%	>10,000 to 100,000	<-1,000 to -10,000	-16%	>10,000 to 100,000	>1,000 to 10,000	5%		system variability
	Ethylbenzene	100-41-4	>10,000 to 100,000	>1,000 to 10,000	9%	>10,000 to 100,000	>1,000 to 10,000	23%	>10,000 to 100,000	>1,000 to 10,000	4%		system variability
	Ethylene	74-85-1	>100 to 1,000	>100 to 1,000	>100%	>10,000 to 100,000	>100 to 1,000	8%	>10 to 100	>10 to 100	-		system variability
	Heptane	***	>10,000 to 100,000	>10,000 to 100,000	86%	>10,000 to 100,000	<-1,000 to -10,000	-15%	>10,000 to 100,000	>1,000 to 10,000	2%		system variability
	Hexane	***	>10,000 to 100,000	>10,000 to 100,000	85%	>100,000 to 1,000,000	<-1,000 to -10,000	-6%	>100,000 to 1,000,000	>1,000 to 10,000	4%		system variability
	hexene	***	>10,000 to 100,000	>10,000 to 100,000	77%	>10,000 to 100,000	>1,000 to 10,000	5%	>10,000 to 100,000	>1,000 to 10,000	3%		system variability
	n-Hexane	110-54-3	>10,000 to 100,000	>10,000 to 100,000	>100%	>1,000 to 10,000	<-1,000 to -10,000	-37%	>10,000 to 100,000	>1,000 to 10,000	7%		system variability
	Nonane	***	>10,000 to 100,000	<-10,000 to -100,000	-26%	>10,000 to 100,000	<-1,000 to -10,000	-15%	>10,000 to 100,000	>100 to 1,000	1%		system variability
	Octane	***	>10,000 to 100,000	>1,000 to 10,000	23%	>100,000 to 1,000,000	>100,000 to 1,000,000	79%	>100,000 to 1,000,000	>10,000 to 100,000	4%		system variability
	Pentane	***	>100,000 to 1,000,000	>100,000 to 1,000,000	98%	>10,000 to 100,000	<-1,000 to -10,000	-3%	>100,000 to 1,000,000	>10,000 to 100,000	3%		system variability
	Pentene	***	>10,000 to 100,000	>10,000 to 100,000	30%	>10,000 to 100,000	>10,000 to 100,000	21%	>100,000 to 1,000,000	>1,000 to 10,000	5%		system variability
	Propane	74-98-6	>1,000 to 10,000	>1,000 to 10,000	51%	>10,000 to 100,000	<-1,000 to -10,000	-10%	>10,000 to 100,000	>100 to 1,000	2%		system variability
	Propylene	115-07-1	>100 to 1,000	>100 to 1,000	>100%	>10,000 to 100,000	>1,000 to 10,000	8%	>10,000 to 100,000	<-10 to -100	0%		system variability
	Toluene	108-88-3	>10,000 to 100,000	>10,000 to 100,000	46%	>100,000 to 1,000,000	>10,000 to 100,000	26%	>100,000 to 1,000,000	>10,000 to 100,000	4%		system variability
	Trimethylbenzene	25551-13-7	>10,000 to 100,000	<-10,000 to -100,000	-72%	>10,000 to 100,000	>1,000 to 10,000	12%	>10,000 to 100,000	>100 to 1,000	1%		system variability
	Xylene	1330-20-7	>10,000 to 100,000	>1,000 to 10,000	3%	>100,000 to 1,000,000	>10,000 to 100,000	20%	>100,000 to 1,000,000	>1,000 to 10,000	4%		system variability

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	Substances (Reported in tonnes)	Chemical Abstract Service CAS Registry Number	Report of Tracking and Quantification of Facility-Wide Quantities - cont'd: USED			CREATED			CONTAINED IN PRODUCT			Comments	Reason for Change
			2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE		
Other	Ammonia	***	>10 to 100	<-1 to -10	-11%	>100 to 1,000	>100 to 1,000	28%	-	0	-	Ammonia is used to neutralize acid constituents of crude oil and protect equipment from corrosion.	system variability
	Carbon monoxide	630-08-0	-	0	-	>1,000 to 10,000	>100 to 1,000	20%	-	0	-	Carbon monoxide is formed as a result of incomplete combustion of fuels in refinery furnaces.	system variability
	Hydrogen sulphide	6-4-7783	>100 to 1,000	<-10 to -100	-4%	>10,000 to 100,000	>1,000 to 10,000	10%	>0 to 1	>0 to 1	14%	Hydrogen sulphide naturally occurs in crude oil. Many refining processes concentrate or create H2S.	system variability
	Hydrochloric acid	7647-01-0	>0 to 1	0	-	>10 to 100	<0 to -1	-3%	-	0	-	Small amounts of hydrochloric acid is created as a byproduct in the conversion units from chlorides present in the crude and/or additives used as processing aids.	system variability
	Methanol	67-56-1	>1 to 10	<-10 to -100	-98%	-	0	-	-	0	-	Methanol is used for its anti-freezing properties. It is not present in refining products.	system variability
	Nitrate ion	***	-	0	-	>10 to 100	<-10 to -100	-49%	-	0	-	Nitrate is found in refinery wastewaters and process effluent.	system variability
	NOx (oxides of nitrogen)	11104-93-1	-	0	-	>1,000 to 10,000	>10 to 100	7%	-	0	-	NOX is formed as a result of combustion of fuels in refinery furnaces.	system variability
	Particulates	***	-	0	-	>100 to 1,000	>10 to 100	5%	-	0	-	Particulates are released from catalyst used in refining processes.	system variability
	PM10	***	-	0	-	>100 to 1,000	>10 to 100	37%	-	0	-	Particulates are released from catalyst used in refining processes.	system variability
	PM2.5	***	-	0	-	>100 to 1,000	>10 to 100	58%	-	0	-	Particulates are released from catalyst used in refining processes.	system variability
	Sulphur dioxide	1446-09-5	-	0	-	>1,000 to 10,000	<-100 to -1,000	-8%	-	0	-	SO2 is formed as a result of combustion of fuels in refinery furnaces.	no significant change
	Sulphuric acid	7664-93-9	>10,000 to 100,000	>1,000 to 10,000	4%	>100 to 1,000	>1 to 10	7%	-	0	-	Sulphuric acid is used in the alkylation process as a catalyst aid. Spent acid is sent off-site for regeneration/re-use. Sulphuric acid is also created as byproduct from combustion of fuel containing traces of sulphur.	no significant change
	Tetrachloroethylene	127-18-4	>1 to 10	<-1 to -10	-34%	-	0	-	-	0	-	TCE is used as processing aid and is transformed in the conversion process.	system variability
	Volatile Organic Compounds	***	-	0	-	>100 to 1,000	<-10 to -100	-6%	-	0	-	Volatile organic compounds are present throughout the refining processes.	no significant change

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	Report of Tracking and Quantification of Facility-Wide Quantities (kg)															
Substances (Reported in kilograms)	RELEASES TO AIR			RELEASES TO WATER			RELEASES TO LAND			ONSITE/OFFSITE DISPOSAL			TRANSFER FOR TREATMENT/RECYCLING			Reason for Change
	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	2020 (kilograms)	DELTA vs. 2019 (kilograms)	% CHANGE	
Arsenic	14.7	4.8	49%	-	-	-	0.1	0.0	-6%	23.8	-11.7	-33%	71.7	-7.3	-9%	system variability
Cadmium	11.5	2.0	21%	-	-	-	0.0	0.0	-33%	1.0	-0.5	-33%	-	-		system variability
Lead	24.8	5.0	25%	72.9	-5.5	-7%	0.0	-	-	67.4	-39.3	-37%	51.3	-42.4	-45%	system variability
Mercury	3.8	0.5	15%	-	-	-	-	-	-	1.4	0.3	27%	-	0.0	-100%	system variability
Selenium	24.0	2.4	11%	72.9	-5.5	-7%	0.0	-	-	3.5	-2.0	-36%	-	-	-	system variability
Acenaphthene	8.8	0.7	9%	-	-	-	-	-0.1	-100%	338.1	301.6	>100%	-	-	-	system variability
Acenaphthylene	9.0	0.6	7%	-	-	-	-	-	-	0.0	0.0	-25%	-	-	-	system variability
Fluorene	8.5	-3.1	-27%	-	-	-	-	-0.1	-100%	498.9	429.4	>100%	-	-	-	system variability
Phenanthrene	19.2	-5.7	-23%	-	-	-	-	-0.5	-100%	1,729.1	1,555.5	>100%	-	-	-	system variability
Pyrene	2.3	-1.0	-30%	-	-	-	0.0	-0.1	-100%	319.6	297.8	>100%	-	-	-	system variability

	Report of Tracking and Quantification of Facility-Wide Quantities (tonnes)															
Substances (Reported in tonnes)	RELEASES TO AIR			RELEASES TO WATER			RELEASES TO LAND			ONSITE/OFFSITE DISPOSAL			TRANSFER FOR TREATMENT/RECYCLING			Reason for Change
	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	2020 (tonnes)	DELTA vs. 2019 (tonnes)	% CHANGE	
Naphthalene	0.1	-0.1	-50%	-	-	-	-	0.0	-100%	1.5	1.2	>100%	-	0.0	-100%	system variability
1, 2, 4-Trimethylbenzene	1.3	-0.8	-38%	-	-	-	-	0.0	-100%	10.6	10.6	>100%	-	-	-	system variability
Benzene	4.2	-0.1	-2%	0.0	-	-	-	-	-	5.1	4.1	>100%	-	-0.2	-100%	system variability
Butane	116.9	8.5	8%	-	-	-	-	-	-	3.7	3.7	>100%	-	-	-	system variability
Butene	21.2	-2.4	-10%	-	-	-	-	-	-	0.9	0.9	>100%	-	-	-	system variability
Cresol	0.2	0.1	100%	0.0	-	-	-	-	-	13.5	12.3	>100%	-	-0.1	-100%	system variability
Cycloheptane	3.5	0.3	9%	-	-	-	-	-	-	5.3	5.3	>100%	-	-	-	system variability
Cyclohexane	1.9	0.8	73%	-	-	-	-	-	-	3.2	3.2	>100%	-	-	-	system variability
Cylcooctane	1.4	-0.3	-18%	-	-	-	-	-	-	0.8	0.8	>100%	-	-	-	system variability
Decane	1.2	-0.4	-25%	-	-	-	-	-	-	4.4	4.3	>100%	-	-	-	system variability
Ethylbenzene	1.4	-0.6	-30%	-	-	-	-	-	-	7.9	7.4	>100%	9.1	-0.4	-4%	system variability
Ethylene	65.8	62.3	>100%	-	-	-	-	-	-	1.0	1.0	-	-	-	-	system variability
Heptane	4.6	-1.2	-21%	-	-	-	-	-	-	25.7	25.7	>100%	-	-	-	system variability
Hexane	20.6	-12.1	-37%	-	-	-	-	-	-	36.3	35.1	>100%	-	-	-	system variability
hexene	5.6	0.9	19%	-	-	-	-	-	-	8.6	8.6	>100%	-	-	-	system variability
n-Hexane	6.3	1.3	26%	-	-	-	-	-	-	13.4	13.4	>100%	-	-	-	system variability
Nonane	1.9	-0.5	-21%	-	-	-	-	-	-	3.4	3.4	>100%	-	-	-	system variability
Octane	5.8	-1.5	-21%	-	-	-	-	-	-	4.6	4.6	>100%	-	-	-	system variability
Pentane	58.6	45.0	>100%	-	-	-	-	-	-	113.9	113.9	>100%	-	-	-	system variability
Pentene	16.5	16.5	-	-	-	-	-	-	-	11.7	11.7	>100%	-	-	-	system variability
Propane	137.7	137.7	-	-	-	-	-	-	-	0.2	0.2	>100%	-	-	-	system variability
Propylene	41.7	17.5	72%	-	-	-	-	-	-	0.0	0.0	-50%	-	-	-	system variability
Toluene	9.0	-2.8	-24%	-	-	-	-	-	-	36.1	34.7	>100%	-	0.0	-100%	system variability
Trimethylbenzene	0.8	0.8	-	-	-	-	-	-	-	8.0	8.0	>100%	-	-	-	system variability
Xylene	5.5	-2.1	-28%	-	-	-	-	0.0	-100%	33.5	32.4	>100%	3.6	-0.1	-3%	system variability
Ammonia	5.4	1.4	35%	1.0	-0.7	-41%	-	-	-	0.0	-0.1	-70%	-	0.0	-100%	system variability
Carbon monoxide	1,164.4	193.5	20%	-	-	-	-	-	-	-	-	-	-	-	-	system variability
Hydrochloric acid	15.0	-0.5	-3%	-	-	-	-	-	-	-	-	-	-	-	-	no significant change
Hydrogen sulphide	5.2	-0.2	-4%	-	-	-	-	-	-	-	0.0	-100%	-	-	-	no significant change
Methanol	0.7	-	-	-	-	-	-	-	-	0.5	0.5	>100%	-	0.0	-100%	system variability
Nitrate ion	-	-	-	29.0	-27.5	-49%	-	-	-	-	0.0	-100%	-	-	-	system variability
NOx (oxides of nitrogen)	1,095.5	73.0	7%	-	-	-	-	-	-	-	-	-	-	-	-	no significant change
Particulates	210.8	10.7	5%	-	-	-	-	-	-	-	-	-	-	-	-	no significant change
PM10	110.0	5.0	5%	-	-	-	-	-	-	-	-	-	-	-	-	no significant change
PM2.5	143.5	74.1	>100%	-	-	-	-	-	-	-	-	-	-	-	-	system variability
Sulphur dioxide	4,788.1	-438.4	-8%	-	-	-	-	-	-	-	-	-	-	-	-	no change
Sulphuric acid	104.6	7.6	8%	-	-	-	-	-	-	0.0	0.0	-	28,853.1	-1,252.4	-4%	no significant change
Tetrachloroethylene	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	no significant change
Volatile Organic Compounds	567.1	-38.6	-6%	-	-	-	-	-	-	-	-	-	-	-	-	no significant change

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Toxic Substance Reduction Plan Stewardship

	Substances	Plan Objectives and Targets	Summary of steps taken during the previous calendar year (2020) to implement the toxics reduction options identified in the plan and the reduction amount resulting from these steps	Comparison of steps taken during the previous calendar year (2020) to steps included in the plan	Indication of whether timeline(s) set out in plan will be met	Additional actions taken during the previous calendar year (2020) to achieve the plan's objectives and the reduction amount resulting from the additional actions	Amendmends made to the plan during the previous calendar year (2020)
Metals	Arsenic	Arsenic (and its compounds) is naturally occurring in trace quantities in the crude oil required by the refinery to run its base business. Arsenic (and its compounds) is also found in trace quantities in the feed. No technically and economically feasible options to reduce the use of arsenic at the facility were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Metals	Cadmium	Cadmium (and its compounds) enters the facility at concentrations in the refinery feedstock that are below the measurement detection limit. Cadmium (and its compounds) is not created at the facility. No reduction options were identified at this time.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Metals	Lead	Lead (and its compounds) is found in trace quantities in the purchased feed. No feasible options were identified to reduce the use of lead (and its compounds) at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Metals	Mercury	Mercury (and its compounds) is naturally occurring in trace quantities in the crude oil required by the refinery to run its base business. The refinery has a mercury protocol in place that assesses the safe processing of mercury containing crudes, and includes components on industrial health, releases, equipment integrity and product specifications. No technically and economically feasible options were identified to reduce the use of mercury (and its compounds) at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Metals	Selenium	Selenium (and its compounds) is naturally occurring in the crude oil required by the refinery to run its base business. Selenium (and its compounds) is only found in trace quantities in crude, and has not been detected in measurable concentrations in any of the refinery outputs. No feasible reduction options were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Polyaromatic Hydrocarbons (PAH)	Acenaphthene	Acenaphthene enters the facility in purchased feedstock, and is created as a byproduct of the complex chemical reactions occurring in conversion units onsite. No options to reduce the use or creation of acenaphthene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Polyaromatic Hydrocarbons (PAH)	Acenaphthylene	Acenaphthylene enters the facility in purchased feedstock, and is created as a byproduct of the complex chemical reactions occurring in FCCU. No technically and economically feasible options to reduce the use or creation of acenaphthylene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Polyaromatic Hydrocarbons (PAH)	Fluorene	Fluorene is naturally occurring in the crude oil required by the refinery to run its base business, and enters the refinery in various purchased feedstock. Fluorene is created as a byproduct of the complex chemical reactions occurring in conversion units onsite. No options to reduce the use or creation of fluorene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Polyaromatic Hydrocarbons (PAH)	Naphthalene	Naphthalene is currently used at the facility and enters the refinery in various additives and feedstock including crude oil. Naphthalene is created at the facility in the fluid catalytic cracking unit (FCCU) and catalytic reforming unit (CRU). Nanticoke refinery is targeting to reduce the use of naphthalene in additives by 0.07 tonnes.	No steps - reduction option(s) complete.	Reduction option complete, no change from plan.	Yes	No additional actions	No amendments
Polyaromatic Hydrocarbons (PAH)	Phenanthrene	Phenanthrene is naturally occurring in the crude oil required by the refinery to run its base business, and also enters the refinery in purchased feedstock. Phenanthrene is created as a byproduct of the complex chemical reactions occurring in conversion units onsite. No options to reduce the use or creation of phenanthrene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Polyaromatic Hydrocarbons (PAH)	Pyrene	Pyrene enters the facility in purchased feedstock and is created as a byproduct of the complex chemical reactions occurring in conversion units onsite. No options to reduce the use or creation of pyrene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	1, 2, 4-Trimethylbenzene	1,2,4-Trimethylbenzene and Trimethylbenzene (all isomers excluding 1,2,4-Trimethylbenzene) enter the facility in additives and feedstock including crude oil, and are created as byproduct of the complex chemical reactions occurring in conversion units onsite. There were no technically and economically feasible options identified to reduce the use or creation of 1,2,4-trimethylbenzene and trimethylbenzene (all isomers excluding 1,2,4-trimethylbenzene) at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments

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Benzene	Nanticoke refinery is in the business of producing benzene from crude oil to be used in other commercial and industrial applications. However, various projects at Nanticoke refinery are expected to reduce fugitive emissions of benzene in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Butane	Nanticoke refinery is in the business of producing propylene, butane and propane from purchased feedstock to be used in other commercial and industrial applications. However, various projects at Nanticoke refinery are expected to reduce fugitive emissions of propylene, butane and propane in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Butene	Butene (all isomers) enters the facility in purchased feedstock, and is created as a byproduct of the complex chemical reactions occurring in conversion units onsite. No options to reduce the use or creation of butene (all isomers) were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Cresol	Cresol (all isomers, and their salts) enters the facility at concentrations in the refinery feedstock that are below the measurement detection limit. Cresol (all isomers, and their salts) is not created at the facility. No reduction options were identified at this time.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Cycloheptane	Cyclohexane, cycloheptane, and cyclooctane naturally occur in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. Cyclohexane, cycloheptane, and cyclooctane are created as product of the complex chemical reactions occurring in conversion units onsite. There were no technically and economically feasible options identified to reduce the use or creation of cyclohexane, cycloheptane and cyclooctane at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Cyclohexane	Cyclohexane, cycloheptane, and cyclooctane naturally occur in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. Cyclohexane, cycloheptane, and cyclooctane are created as product of the complex chemical reactions occurring in conversion units onsite. There were no technically and economically feasible options identified to reduce the use or creation of cyclohexane, cycloheptane and cyclooctane at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Cylcooctane	Cyclohexane, cycloheptane, and cyclooctane naturally occur in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. Cyclohexane, cycloheptane, and cyclooctane are created as product of the complex chemical reactions occurring in conversion units onsite. There were no technically and economically feasible options identified to reduce the use or creation of cyclohexane, cycloheptane and cyclooctane at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Decane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Ethylbenzene	Ethylbenzene is currently used at the facility and enters the refinery in various additives and feedstock including crude oil. Ethylbenzene is created at the facility in the fluid catalytic cracking unit (FCCU) and catalytic reforming unit (CRU). Nanticoke refinery is targeting to reduce the use of ethylbenzene in additives by 0.3 tonnes. In addition, various projects at Nanticoke refinery are expected to reduce the fugitive emissions of ethylbenzene in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program.	No steps - reduction option(s) complete.	Reduction option complete, no change from plan.	Yes	No additional actions	No amendments

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Hydrocarbons	Ethylene	Ethylene is currently used at the facility and enters the refinery in the alkylation unit feedstock. Ethylene is naturally created at the facility in the fluid catalytic cracking unit. No technically and economically feasible options to reduce the use of ethylene were identified. Nanticoke refinery is targeting to reduce the creation of ethylene onsite by 133 tonnes.	No steps - reduction option(s) complete.	Reduction option complete, no change from plan.	Yes	No additional actions	No amendments
Hydrocarbons	Heptane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Hydrocarbons	Hexane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Hydrocarbons	Hexene	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Hydrocarbons	n-Hexane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Hydrocarbons	Nonane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments

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Octane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Pentane	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Pentene	n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are naturally occurring in the crude oil required by the refinery to run its base business, and enter the refinery in various purchased feedstock. n-Hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene are created as products of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of n-hexane, pentane, hexane (all isomers excluding n-Hexane), heptane, octane, nonane, decane, pentene and hexene were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Propane	Nanticoke refinery is in the business of producing propylene, butane and propane from purchased feedstock to be used in other commercial and industrial applications. However, various projects at Nanticoke refinery are expected to reduce fugitive emissions of propylene, butane and propane in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Propylene	Nanticoke refinery is in the business of producing propylene, butane and propane from purchased feedstock to be used in other commercial and industrial applications. However, various projects at Nanticoke refinery are expected to reduce fugitive emissions of propylene, butane and propane in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Toluene	While Nanticoke has not identified any feasible options to reduce the use or creation of toluene at the facility, various projects at Nanticoke refinery are expected to reduce fugitive emissions of toluene in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program. A reduction in the amount disposed is also expected as 2011 included a one-time shipment of additive.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Trimethylbenzene	1,2,4-Trimethylbenzene and Trimethylbenzene (all isomers excluding 1,2,4-Trimethylbenzene) enter the facility in additives and feedstock including crude oil, and are created as byproduct of the complex chemical reactions occurring in conversion units onsite. There were no technically and economically feasible options identified to reduce the use or creation of 1,2,4-trimethylbenzene and trimethylbenzene (all isomers excluding 1,2,4-trimethylbenzene) at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments

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	Xylene	Xylene (all isomers) is currently used at the facility and enters the refinery in various additives and feedstock including crude oil. Xylene (all isomers) is created at the facility in the fluid catalytic cracking unit (FCCU) and catalytic reforming unit (CRU). Nanticoke refinery is targeting to reduce the use of xylene in additives by 2.7 tonnes. Various projects at Nanticoke refinery are also expected to reduce the fugitive emissions of xylene (all isomers) in the coming years. These projects include tank upgrades and improvements to the fugitive emission monitoring program.	No steps - reduction option(s) complete.	Reduction option complete, no change from plan.	Yes	No additional actions	No amendments
Other	Ammonia	Ammonia (total) is used as ammonium hydroxide to neutralize acids in atmospheric and vacuum tower overhead circuits. The ammonia (total) created onsite is a byproduct of the complex chemical reactions occurring in conversion units onsite which cannot be controlled for individual substance creation. No technically and economically feasible options to reduce the use or creation of ammonia (total) were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	Carbon monoxide	Carbon Monoxide is created as a byproduct of the complex chemical reactions occurring in conversion units onsite. Carbon Monoxide is not used at the refinery. No technically and economically feasible options to reduce the creation of carbon monoxide were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	Diethanolamine	Diethanolamine (and its salts) enters the facility as a DEA makeup for acid gas impurities removal. Diethanolamine (and its salts) is not created at the facility. Nanticoke refinery is targeting to reduce the use of diethanolamine (and its salts) by 0.06 tonnes.	No steps	No change	No - Optimization in asphalt mode delayed	No additional actions	No amendments
	Hydrogen sulphide	Hydrogen sulphide and total reduced sulphur enter the facility in feedstock including crude oil, and are created as byproduct of the complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the use or creation of hydrogen sulphide and total reduced sulphur were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	HCFC-22	HCFC-22 is used as a method of refrigeration in the Sulphur Recovery Unit Liquid Recovery Facility (SRU-LRF) to recover propane and heavier hydrocarbons from refinery fuel gas. Nanticoke refinery has Best Management Practices Plan in place as a preventative measure to limit the fugitive emissions of HCFC-22. There are no technically and economic feasible options identified to reduce the use of HCFC-22 as the method of refrigeration.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	Hydrochloric Acid	Hydrochloric acid is created at the facility through the conversion of organic chlorides in various conversion units onsite. There were no technically and economically feasible options identified to reduce the creation of hydrochloric acid at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	Methanol	Methanol is used as an antifreeze for the refinery process equipment. We are continuing to evaluate methanol reduction options.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	Nitrate ion	Nitrate Ion in Solution at pH >=6.0 is created due to biodegradation of ammonia in process wastewater, which is created during complex chemical reactions occurring in conversion units onsite. No technically and economically feasible options to reduce the creation of nitrate ion in solution at pH >=6.0 were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	NOx (oxides of nitrogen)	Nitrogen oxides (expressed as NO2) is created on site by the combustion processes in the refinery heaters and boilers and combustion of coke in FCC. Nitrogen oxides (expressed as NO2) is not used at the refinery. No technically and economically feasible options to reduce the creation of nitrogen oxides (expressed as NO2) were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
	Particulates	PM2.5 - Particulate Matter, PM10 - Particulate Matter, and Total Particulate Matter are created onsite by combustion processes in the refinery heaters and boilers, movement of catalysts in FCC and during cooling tower operations. No economically and technically feasible options were identified to reduce the creation of PM2.5 - Particulate Matter, PM10 - Particulate Matter, and Total Particulate Matter at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments

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PM10	PM2.5 - Particulate Matter, PM10 - Particulate Matter, and Total Particulate Matter are created onsite by combustion processes in the refinery heaters and boilers, movement of catalysts in FCC and during cooling tower operations. No economically and technically feasible options were identified to reduce the creation of PM2.5 - Particulate Matter, PM10 - Particulate Matter, and Total Particulate Matter at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
PM2.5	PM2.5 - Particulate Matter, PM10 - Particulate Matter, and Total Particulate Matter are created onsite by combustion processes in the refinery heaters and boilers, movement of catalysts in FCC and during cooling tower operations. No economically and technically feasible options were identified to reduce the creation of PM2.5 - Particulate Matter, PM10 - Particulate Matter, and Total Particulate Matter at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Phenol (and its salts)	Phenol (and its salts) is an active ingredient of various additives used to prolong the shelf life of finished products. No viable alternatives were identified that would result in a net reduction of toxic substances used at the facility. Phenol (and its salts) is created in combustion processes. Reducing the creation of phenol would not result in a net reduction of toxic substances created at the facility. No feasible options to reduce the creation of phenol (and its salts) were identified.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Sulphur Dioxide	Sulphur Dioxide is created on site by the combustion processes in the refinery heaters and boilers and combustion of coke in FCC and CRU. Sulphur Dioxide is not used at the refinery. Nanticoke refinery is targeting to reduce the creation of sulphur dioxide onsite by 75 tonnes.	No steps - reduction option(s) complete.	Reduction option complete, no change from plan.	Yes	No additional actions	No amendments
Sulphuric acid	Sulphuric acid is currently used at the Nanticoke refinery primarily as a catalyst in the alkylation unit, and is sent for offsite regeneration. Sulphuric acid is created at the facility primarily through combustion processes. Nanticoke refinery is targeting to reduce the use of sulphuric acid onsite by 1760 tonnes. These measures are also expected to result in a reduction in the amount of sulphuric acid transferred offsite for regeneration.	No steps - reduction option(s) complete.	Reduction option complete, no change from plan.	Yes	No additional actions	No amendments
Tetrachloroethylene	Tetrachloroethylene is currently used at the Nanticoke refinery as a promoter in the catalytic reforming unit (CRU). All of the tetrachloroethylene is transformed in the CRU. There were no technically and economically feasible options identified to reduce the use of tetrachloroethylene at the facility.	No steps	No change	Not applicable - no timeline in plan	No additional actions	No amendments
Volatile Organic Compounds	Not applicable - no plans required for VOCs as a group (O. Reg 455/09 S.11)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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

Imperial Oil

Certifying Official (or authorized delegate)

Jody Grant

Report Submitted by

Jody Grant

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 2021-09-27, I, Jody Grant, 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
95-63-6	1,2,4-Trimethylbenzene

83-32-9	Acenaphthene
208-96-8	Acenaphthylene
NA - 16	Ammonia (total)
NA - 02	Arsenic (and its compounds)
71-43-2	Benzene
NA - 24	Butane (all isomers)
25167-67-3	Butene (all isomers)
NA - 03	Cadmium (and its compounds)
630-08-0	Carbon monoxide
1319-77-3	Cresol (all isomers, and their salts)
NA - 25	Cycloheptane (all isomers)
110-82-7	Cyclohexane
NA - 27	Cyclooctane (all isomers)
NA - 28	Decane (all isomers)
111-42-2	Diethanolamine (and its salts)
100-41-4	Ethylbenzene
74-85-1	Ethylene

86-73-7	Fluorene
NA - 31	Heptane (all isomers)
NA - 32	Hexane (all isomers excluding n-hexane)
25264-93-1	Hexene (all isomers)
7647-01-0	Hydrochloric acid
7783-06-4	Hydrogen sulphide
67-63-0	Isopropyl alcohol
NA - 08	Lead (and its compounds)
NA - 10	Mercury (and its compounds)
67-56-1	Methanol
91-20-3	Naphthalene
110-54-3	n-Hexane
NA - 17	Nitrate ion in solution at pH >= 6.0
11104-93-1	Nitrogen oxides (expressed as NO2)
NA - 33	Nonane (all isomers)
NA - 34	Octane (all isomers)
NA - 35	Pentane (all isomers)

NA - 36	Pentene (all isomers)
85-01-8	Phenanthrene
NA - M09	PM10 - Particulate Matter
NA - M10	PM2.5 - Particulate Matter
74-98-6	Propane
115-07-1	Propylene
129-00-0	Pyrene
NA - 12	Selenium (and its compounds)
7446-09-5	Sulphur dioxide
7664-93-9	Sulphuric acid
127-18-4	Tetrachloroethylene
108-88-3	Toluene
NA - M08	Total Particulate Matter
25551-13-7	Trimethylbenzene (all isomers excluding 1,2,4-Trimethylbenzene)
1330-20-7	Xylene (all isomers)

Exit Record Certification Statement

TRA Exit Record Substances

CAS RN	Substance Name

108-95-2	Phenol (and its salts)

Company Name

Imperial Oil

Highest Ranking Employee

Jody Grant

Report Submitted by

Jody Grant

Website address

https://www.imperialoil.ca/en-CA/Company/Operations/Nanticoke#Environment

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
2020	2021-09-27	Imperial Oil Nanticoke Refinery	Ontario	Nanticoke	NPRI,ON MECP TRA,NFPRER

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.