S. Kuntz
Nanticoke Refinery Manager
519.587.4992

November 2015

Nanticoke Refinery – Reduction plan summary (OR 455/09)

Provincial regulations set out requirements for business owners to inform Ontarians about the use and creation of reportable substances in their communities. Under the Toxics Reduction Act (TRA), companies are required to develop reduction plans for prescribed substances.

Petroleum refineries process crude oil to manufacture finished products, such as gasoline and heating oil, that are used and valued by our society. Crude oil may contain varying quantities of the substances covered under the TRA. Through the tightly controlled multi-step refinery operation, a variety of substances are used, created and transformed within contained piping and vessels. Finished products are regulated for both content (sulphur levels, for example) and use (pollution controls and higher mileage vehicles). In addition, Imperial Oil has comprehensive programs in place at all its facilities to reduce waste, to prevent spills and leaks, to reduce fugitive emissions, and to train personnel on the environmental responsibilities of their role.

The following summary of the reduction plan has been prepared in accordance with Section 8 of the TRA and the requirements of Section 24 of Ontario Regulation 455/09, as amended from time to time. The summary accurately reflects the current version of the plan.

In 2015, Nanticoke refinery prepared a new plan for the following substance:

- Isopropyl Alcohol

The following substances also required plans in 2015 under subsection 3(1) of the Act based on 2014 toxic substance quantifications. These plans were prepared in previous years and remain valid in 2015.

- Ammonia (total)
- Antimony (and its compounds)
- Benzene
- Cresol (all isomers, and their salts)
- Cyclohexane
- Diethanolamine (and its salts)
- Ethylbenzene
- Ethylene
- HCFC-22
- n-Hexane
- Hydrochloric acid
- Hydrogen sulphide
- Methanol
- Naphthalene
- Nitrate ion
- Phenol (and its salts)
- Propylene
- Sulphuric acid
- Tetrachloroethylene
- Toluene
- Total reduced sulphur
- Trimethylbenzene, 1,2,4-
- Xylene (all isomers)
- Mercury (and its compounds)
- Cadmium (and its compounds)
- Lead (and its compounds)
- Selenium (and its compounds)
- Acenaphthene
- Acenaphthylene
- Fluorene
- Phenanthrene
- Pyrene
- Carbon monoxide
- Nitrogen oxides (expressed as nitrogen dioxide)
- PM2.5
- PM10
- Sulphur dioxide
- Total particulate matter
- Propane

- Butane (all isomers)
- Butene (all isomers)
- Cycloheptane
- Cyclooctane
- Decane (all isomers)
- Heptane (all isomers)
- Hexane
- Hexene (all isomers)
- Noname (all isomers)
- Octane (all isomers)
- Pentane (all isomers)
- Trimethylbenzene

Plan Summary Preview

Company Details

Company Legal Name

Imperial Oil

Company Address

237 4th Avenue Southwest, Calgary (Alberta)

Report Details

Facility Name

Nanticoke Refinery

Facility Address

225 2nd Concession, Nanticoke (Ontario)

Update Comments

Activities

Contacts

Select the Facility Contacts

Facility Contacts

Please assign the appropriate contact under each category below.

Public Contact: *

Jon Harding

Highest Ranking Employee

Person responsible for Toxic Substance Reduction Plan preparation

Organization Validation

Company and Parent Company Information

Company Details

Company Legal Name: * Imperial Oil

Company Trade Name: *	Imperial Oil
Business Number: *	121461107

Mailing Address

Delivery Mode	
PO Box	
Rural Route Number	
Address Line 1	237 4th Avenue Southwest
City *	Calgary
Province/Territory **	Alberta
Postal Code: **	T2P3M9

Physical Address

Address Line 1	237 4th Avenue Southwest
City	Calgary
Province/Territory	Alberta
Postal Code	T2P3M9
Additional Information	
Land Survey Description	
National Topographical Description	

Parent Companies

Empty

Facility Validation

The information in this section was copied from the Single Window Information Manager (SWIM) at the time the plan summary was created. Please verify the information and update it where required. Please note that any changes made here will only be reflected in this plan summary. To ensure updates reflected in future reports, please ensure the information is updated in SWIM. After making updates in SWIM, return here and click the "Refresh" button to trigger a reload of the SWIM information. Please note all previously entered data

will be modified.

Facility Information

Facility Name: *	Nanticoke Refinery
NAICS Code: *	324110
NPRI Id: *	3701
ON Reg 127/01 Id	

Facility Mailing Address

Delivery Mode	General Delivery
PO Box	500
Rural Route Number	
Address Line 1	225 Concession 2 Concession
City *	Nanticoke
Province/Territory **	Ontario
Postal Code: **	N0A1L0

Physical Address

Address Line 1	225 2nd Concession
City	Nanticoke
Province/Territory	Ontario
Postal Code	N0A1L0
Additional Information	
Land Survey Description	
National Topographical Description	

Geographical Address

Latitude **	42.83750

Longitude **	-80.05170
UTM Zone **	17
UTM Easting **	578000
UTM Northing **	4743000

Contact Validation

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Contacts

Public Contact

First Name: *	Jon
Last Name: *	Harding
Position: *	Public Relations
Telephone: *	5193394015
Ext	
Fax	5193394491
Email: *	jon.s.harding@esso.ca

Mailing Address

Delivery Mode	
PO Box	3004
Rural Route Number	
Address Line 1	602 Christina Street South
City *	Sarnia

Province/Territory **

Ontario

Postal Code: **

N7T7M5

Employees

Employees

Number of Full-time Employees: *

681

Substances

67-63-0, Isopropyl alcohol

67-63-0, Isopropyl alcohol

Substances Section Data

Statement of Intent

Are the following included in the Facility's TRA Plan?

Use

Is there a statement that the owner or operator of the facility intends to reduce the use of the toxic substance at the facility?: *

No

If ‘yes’, exact statement of the intent that is included in the facility’s TRA Plan to reduce the use of the toxic substance at the facility: **

If ‘no’, reason in the facility’s TRA Plan for no intent to reduce the use of the toxic substance at the facility: **

Isopropyl alcohol is used in the facility in various additives. Additives containing Isopropyl alcohol are used for demulsifying and to prevent corrosion to protect unit interior. No economically feasible alternatives were identified that would result in a reduction of isopropyl alcohol.

Creation

Is there a statement that the owner or operator of the facility intends to reduce the creation of the toxic substance at the facility?: *

No

If ‘yes’, exact statement of the intent that is included in the facility’s TRA Plan to reduce the creation of the toxic substance at the facility: **

If ‘no’, reason in the facility’s TRA Plan for no intent to reduce the creation of the toxic substance at the facility: **

Isopropyl alcohol is not created at the facility.

Objectives, Targets and Description

Objectives

Objectives in plan: *

Isopropyl alcohol is currently used at the facility and enters the refinery in various additives. There were no technically and economically feasible options identified to reduce the use of Isopropyl alcohol at the facility.

Use Targets

What is the targeted reduction in use of the toxic substance at the facility? *

No quantity target		Quantity	Unit
☒	or		

What is the targeted timeframe for this reduction? *

No timeline target		years
☒	or	

Description of targets

Creation Targets

What is the targeted reduction in creation of the toxic substance at the facility? *

No quantity target		Quantity	Unit
☒	or		

What is the targeted timeframe for this reduction? *

No timeline target		years
☒	or	

Description of Target

Reasons for Use

Why is the toxic substance used at the facility?: *

As a physical or chemical processing aid

Summarize why the toxic substance is used at the facility: **

Isopropyl alcohol is added as a demulsifier in the alkylation unit (ALKY), a corrosion inhibitor in the fluid catalyst cracking unit (FCCU) and as a conductivity enhancer in the tank farm.

Reasons for Creation

Why is the toxic substance created at the facility?: *

This substance is not created at the facility

Summarize why the toxic substance is created at the facility: **

Toxic Reduction Options for Implementation

Description of the toxic reduction option(s) to be implemented

Is there a statement that no option will be implemented?: *

Yes, we are not implementing

If you answered “No” to this question, please add the option(s) under the appropriate Toxic Substance Reduction Categories (e.g. Materials or feedstock substitution, Product design or reformulation, etc.). If you answered “Yes” please provide an explanation below why your facility is not implementing an option. Explanation of the reasons why no option will be implemented: **

No technically and economically feasible options were identified that would be expected to reduce the use of isopropyl alcohol at the facility. As such, Imperial Oil does not intend to implement any options to reduce the use of isopropyl alcohol at the Nanticoke Refinery.

Materials or feedstock substitution

Empty

Product design or reformulation

Empty

Equipment or process modifications

Empty

Spill or leak prevention

Empty

On-site reuse, recycling or recovery

Empty

Improved inventory management or purchasing techniques

Empty

Good operator practice or training

Empty

Rationale for why the listed options were chosen for implementation

General description of any actions undertaken by the owner and operator of the facility to reduce the use and creation of the toxic substance at the facility that are outside of the plan

License Number of the toxic substance reduction planner who made recommendations in the toxic substance reduction plan for this substance (format TSRPXXXX): *

TSRP0071

License Number of the toxic substance reduction planner who has certified the toxic substance reduction plan for this substance (format TSRPXXXX): *

TSRP0071

What version of the plan is this summary based on?: *

New Plan

9. TOXIC REDUCTION PLAN CERTIFICATION

Highest Ranking Employee

As of DECEMBER 1, 2015 (Date), I, Shawn Kuntz, certify that I have read the toxic substance reduction plan for the toxic substance referred to below and am familiar with its contents, and to my knowledge the plan is factually accurate and complies with the *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

- 67-63-0 Isopropyl alcohol

Shawn Kuntz — Date: Dec 1, 2015
Refinery Manager, Nanticoke Refinery

Toxic Substance Reduction Planner

As of October 22, 2015 (Date), I, Scott Manser (Planner Name) certify that I am familiar with the processes at Imperial Oil's Nanticoke Refinery that use or create the toxic substances referred to below, that I agree with the estimates referred to in subparagraphs 7 iii, iv and v of subsection 4 (1) of the *Toxics Reduction Act, 2009* that are set out in the plan dated October 22, 2015 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

- 67-63-0 Isopropyl alcohol

Scott Manser — License Number: TSRP0071 — Date: October 22, 2015
Toxic Substance Reduction Planner