

December 2016

Sarnia 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 has comprehensive programs in place at all of its facilities to reduce waste, prevent spills and leaks, reduce fugitive emissions, and to train personnel on the environmental responsibilities of their roles.

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 2016, Sarnia refinery prepared a new plan for the following substance:

- Isopropyl alcohol

The following substances also required plans in 2016 under subsection 3(1) of the Act based on 2015 toxic substance quantifications. These plans were prepared in previous years and remain valid in 2016.

- Ammonia (total)
- Anthracene
- Asbestos
- Benzene
- Biphenyl
- 1,3-Butadiene
- Cresol (all isomers, and their salts)
- Cyclohexane
- Dicyclopentadiene
- Ethylbenzene
- Ethylene
- Ethylene glycol
- n-Hexane
- Hydrogen cyanide
- Hydrogen sulphide
- Methanol
- Molybdenum trioxide
- Naphthalene
- Nickel (and its compounds)
- Nitrate ion
- Phenol (and its salts)
- Propylene
- Sulphuric acid
- Toluene
- Total reduced sulphur
- 1,2,4-Trimethylbenzene
- Vanadium (and its compounds)
- Xylene (all isomers)
- Zinc (and its compounds)
- Cadmium (and its compounds)
- Isoprene
- Lead (and its compounds)
- Mercury (and its compounds)
- Selenium (and its compounds)
- Acenaphthene
- Acenaphthylene
- Benzo(a)anthracene
- Benzo(a)phenanthrene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(e)pyrene
- Benzo(g,h,i)perylene
- Benzo(j)fluoranthene
- Benzo(k)fluoranthene
- Dibenzo(a,j)acridine
- Dibenzo(a,h)anthracene

- Dibenzo(a,i)pyrene
- 7H-Dibenzo(c,g)carbazole
- Fluoranthene
- Fluorene
- Indeno(1,2,3-c,d)pyrene
- Perylene
- Phenanthrene
- Pyrene
- Carbon monoxide
- Nitrogen oxides (expressed as NO₂)
- PM_{2.5}
- PM₁₀
- Sulphur dioxide
- Total particulate matter
- Formaldehyde
- Trimethylbenzene
- Propane
- Tetrahydrofuran
- Butane (all isomers)
- Butene (all isomers)
- Cycloheptane (all isomers)
- Cyclohexene (all isomers)
- Cyclooctane (all isomers)
- Decane (all isomers)
- Heptane (all isomers)
- Hexane
- Hexene (all isomers)
- Nonane (all isomers)
- Octane (all isomers)
- Pentane (all isomers)
- Pentene (all isomers)

Plan Summary Preview

Company Details

Company Legal Name

Imperial Oil

Company Address

505 Quarry Park Boulevard Southeast, Calgary (Alberta)

Report Details

NPRI ID

3704

Facility Name

Sarnia Refinery Plant

Facility Address

602 Christina Street South, Sarnia (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

Rohan Davis

Person responsible for Toxic Substance Reduction Plan preparation

Charles Mortley-Wood

Organization Validation

Company and Parent Company Information

Company Details

Company Legal Name: *

Company Trade Name: *

Business Number: *

Mailing Address

Delivery Mode

PO Box

Rural Route Number

Address Line 1

City *

Province/Territory **

Postal Code: **

Physical Address

Address Line 1

City

Province/Territory **

Postal Code **

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: *	<input type="text" value="Sarnia Refinery Plant"/>
NAICS Code: *	<input type="text" value="324110"/>
NPRI Id: *	<input type="text" value="3704"/>
ON Reg 127/01 Id	<input type="text"/>

Facility Mailing Address

Delivery Mode	<input type="text" value="Post Office Box"/>
PO Box	<input type="text" value="3004"/>
Rural Route Number	<input type="text"/>
Address Line 1	<input type="text" value="602 Christina Street South"/>
City *	<input type="text" value="Sarnia"/>
Province/Territory **	<input type="text" value="Ontario"/>
Postal Code: **	<input type="text" value="N7T7M5"/>

Physical Address

Address Line 1	<input type="text" value="602 Christina Street South"/>
City	<input type="text" value="Sarnia"/>
Province/Territory **	<input type="text" value="Ontario"/>
Postal Code **	<input type="text" value="N7T7M5"/>
Additional Information	<input type="text"/>

Land Survey Description

National Topographical Description

Geographical Address

Latitude **

Longitude **

UTM Zone **

UTM Easting **

UTM Northing **

Contact Validation

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Contacts

Public Contact

First Name: *

Last Name: *

Position: *

Telephone: *

Ext

Fax

Email: *

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

Highest Ranking Employee

First Name: *

Rohan

Last Name: *

Davis

Position: *

Refinery Manager

Telephone: *

5193392401

Ext

Fax

5193392824

Email: *

rohan.j.davis@exxonmobil.com

Mailing Address

Delivery Mode

General Delivery

PO Box

3004

Rural Route Number

Address Line 1

602 Christina Street

City *

Sarnia

Province/Territory **

Ontario

Postal Code: **

N7T 7M5

Person responsible for the Toxic Substance Reduction Plan preparation

First Name: *	<input type="text" value="Charles"/>
Last Name: *	<input type="text" value="Mortley-Wood"/>
Position: *	<input type="text" value="Planning Advisor"/>
Telephone: *	<input type="text" value="5193392529"/>
Ext	<input type="text"/>
Fax	<input type="text"/>
Email: *	<input type="text" value="charles.d.mortley-wood@esso.ca"/>

Mailing Address

Delivery Mode	<input type="text" value="General Delivery"/>
PO Box	<input type="text" value="3004"/>
Rural Route Number	<input type="text"/>
Address Line 1	<input type="text" value="602 Christina St. South"/>
City *	<input type="text" value="Sarnia"/>
Province/Territory **	<input type="text" value="Ontario"/>
Postal Code: **	<input type="text" value="N7T 7M5"/>

Employees

Employees

Number of Full-time Employees: *

Copy of Certifications of Plan

Copy of Certifications of Plan

Upload Document

A copy of the certification statement(s) from the Highest Ranking Employee and the Licensed Planner(s), for the Toxic Substance Reduction Plan for which the Plan Summary is being submitted are required. Please upload a single document containing all certifications.

Do not upload any certification statements that are dated after December 31. If this applies, click "?" (Help)

for more information.

Comments

Website address where the Plan Summary is posted for the public

File Name

Date

Isopropyl Alcohol - Signed.pdf

27/01/2017 12:51:38 PM

Plan Summary Submission

Electronic Submission

Company Name

Imperial Oil

Facility Name

Sarnia Refinery Plant

Report Submitted By (authorized delegate)

Rohan Davis

I, the authorized delegate, acknowledge that by pressing the "Continue" button, I am electronically submitting the facility TRA Plan Summary for the identified facility.

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 at the facility as a carrier fluid in third party chemicals used in the water treatment processes of the facility. Isopropyl alcohol also acts as an anti-freeze for these same water treatment chemicals. The chemicals containing Isopropyl alcohol used at the facility are required to ensure water quality specifications are achieved, and no acceptable commercial alternatives have been identified to perform the required water treatment.

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 primarily enters the facility as a component of a water treating chemical and is destroyed in the refinery processing. Isopropyl alcohol is not created at the facility. No reduction objectives have been identified.

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?: *

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

Reasons for Creation

Why is the toxic substance 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?: *

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 reduction options were identified that are expected to reduce the use or creation of Isopropyl alcohol at Imperial Oil's Sarnia Refinery. Therefore, Imperial Oil does not intend to implement any options to reduce the use or creation of Isopropyl alcohol at the facility.

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): *

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

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

9. TOXIC REDUCTION PLAN CERTIFICATION

Highest Ranking Employee

As of DECEMBER 19, 2016, I, Rohan Davis, certify that I have read the toxic substance
Date
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




Rohan Davis
Refinery Manager, Sarnia Refinery

DEC 19, 2016
Date

Toxic Substance Reduction Planner

As of 15/12/2016, I, Scott Manser certify that I am familiar with the processes
Date Planner Name
at Imperial Oil's Sarnia 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 14/12/2016 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
Toxic Substance Reduction Planner

TSRP0071
License Number

15/12/2016
Date