

Toxics Reduction Act Public Annual Report Calendar 2017

The legal and trade names of the owner and the operator of the facility, the street address of the facility and, if the mailing address of the facility is different from the street address, the mailing address.(See below)

Asahi Refining Canada Limited	
130 Glidden Road	
Brampton	ON
L6W 3M8	

Facility NPRI identification number

000003991

The identification number assigned to the facility by the Ministry of the Environment for the purposes of Ontario Regulation 127/01.

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Number of full-time employees

114

North American Industry Classification System (NAICS) - 2, 4, and 6 digit codes

31 - 33 Manufacturing
3314 - Non-Ferrous (exc. Al) Production & Processing
331410 - Non-Ferrous (except Al) Smelting & Refining

If applicable, the name, position and telephone number of the individual who is the contact at the facility for the public:
Public Contact (if applicable)

Andy Calovini
Environmental, Health and Safety Manager
905-454-6851

Title

Phone Number

Address of each person below if not the same as the facility

Facility Name

Address 1

Address 2

City

Province

Postal Code

Asahi Refining Canada Limited	
130 Glidden Road	
Brampton	
	ON
	L6W 3M8

UTM coordinates, x and y

Datum

X	603005	Y	4838353
			WGS84

Legal name of Canadian parent company, if your facility is a subsidiary of a Canadian parent company

Parent company name

Address 1

Address 2

City

Province

Postal Code

Percent Ownership

Asahi Refining Canada Limited	
130 Glidden Road	
Brampton	
	ON
	L6W 3M8
	100%

Substance Accounting

Substance:	Chlorine
CAS Number:	7782-50-5

On a facility-wide basis:	Amount	Units
Amount that entered the facility as the substance itself or as a constituent of another substance:	>10 - 100	tonnes
The amount of substance that was created:	0.000	tonnes
The amount of substance that was contained in product:	0.000	tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:	Copper and its compounds
CAS Number:	NA - 06

On a facility-wide basis:	Amount	Units
Amount that entered the facility as the substance itself or as a constituent of another substance:	>100 - 1000	tonnes
The amount of substance that was created:	0.000	tonnes
The amount of substance that was contained in product:	>10 - 100	tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:	Hydrochloric Acid
CAS Number:	7647-01-0

On a facility-wide basis:	Amount	Units
Amount that entered the facility as the substance itself or as a constituent of another substance:	>100 - 1000	tonnes
The amount of substance that was created:	0.000	tonnes
The amount of substance that was contained in product:	0.000	tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:	Nitrate ion (in solution at a pH of 6.0 or greater)
CAS Number:	NA - 17

On a facility-wide basis:	Amount	Units
Amount that entered the facility as the substance itself or as a constituent of another substance:	>100 - 1000	tonnes
The amount of substance that was created:	0.000	tonnes
The amount of substance that was contained in product:	0.000	tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance Accounting

Substance:

Nitric Acid

CAS Number:

7697-37-2

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>100 - 1000 tonnes

The amount of substance that was created:

0.000 tonnes

The amount of substance that was contained in product:

0.000 tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:

Silver and its compounds

CAS Number:

NA - 13

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>100 - 1000 tonnes

The amount of substance that was created:

0.000 tonnes

The amount of substance that was contained in product:

>100 - 1000 tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:

Zinc and its compounds

CAS Number:

NA - 14

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>10 - 100 tonnes

The amount of substance that was created:

0.000 tonnes

The amount of substance that was contained in product:

>10 - 100 tonnes

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:

Arsenic and its compounds

CAS Number:

NA - 02

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>1000 - 10000 kg

The amount of substance that was created:

0.000 kg

The amount of substance that was contained in product:

>1000 - 10000 kg

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance Accounting

Substance:

Cadmium and its compounds

CAS Number:

NA - 03

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>1000 - 10000 kg

The amount of substance that was created:

0.000 kg

The amount of substance that was contained in product:

>100 - 1000 kg

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:

Lead and its compounds

CAS Number:

NA - 08

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>10000 - 100000 kg

The amount of substance that was created:

0.000 kg

The amount of substance that was contained in product:

>1000 - 10000 kg

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Substance:

Selenium and its compounds

CAS Number:

NA - 12

On a facility-wide basis:

Amount

Units

Amount that entered the facility as the substance itself or as a constituent of another substance:

>1000 - 10000 kg

The amount of substance that was created:

0.000 kg

The amount of substance that was contained in product:

>1000 - 10000 kg

On-site releases from the facility to air, water and land, as well as on and off-site disposal and off-site recycling can be viewed by searching for this facility at <http://www.ec.gc.ca/inrp-npri/default.asp?lang=en>

Annual Progress Report - Calendar 2017

Substances for which toxic substance reduction plans have been prepared:

Substance	CASRN
Chlorine	7782-50-5
Copper and its compounds	NA - 06
Hydrochloric Acid	7647-01-0
Silver and its compounds	NA - 13
Zinc and its compounds	NA - 14
Arsenic and its compounds	NA - 02
Cadmium and its compounds	NA - 03
Lead and its compounds	NA - 08
Selenium and its compounds	NA - 12
Nitrate ion (in solution at a pH of 6.0 or greater)	NA-17
Nitric Acid	7697-37-2

Plan Objectives

Asahi Refining Canada Limited's goal is to reduce the use and release of the above noted substances where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for these substance. However, Asahi will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to note that many of these substances are naturally occurring in trace amounts in many of the materials received and processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

Toxics Reduction Progress

Variations in the reported quantities of all substances were observed during the reporting period relative to the previous year due in part to the overall changes in the annual production values in which gold refining quantities increased slightly and silver refining quantities decreased. In general, changes in the quantities of most metals were due to varying concentrations of these trace metals in the feedstock processed by the facility. Decreases in the quantity of Zinc used by the facility are due to a process change in which the facility is switching from using Zinc in their residues treatment operations to using an Iron based material. Changes in the quantities of materials sent to recycling are due to a increase in the quantity of filter cake sent to Glencore which was offset by an decrease in the quantity of material sent for outside refining. Decreased quantities of substances released to water are due to a decrease in the estimated quantity of treated effluent released by the facility.

As with previous assessments, the quantity of metals contained in final product is based on a mass balance approach in which the difference between the total metal processed less the total quantity of that metal released was deemed to be contained in the final product. Note that the quantities of these same metals in the materials received and processed are, in many cases, based on average concentrations of these substances in the various feedstock materials received and processed by the facility. However, the information is still considered to be the best available for completing the annual assessments.

Plan Implementation Progress

There were no reduction options identified in any of the plans for the above noted substances that were identified as being both technically and economically feasible. As such, there were no timelines presented in the reduction plans for the above noted substances. However, Asahi Refining Canada Limited will continue to explore and investigate potential reduction options as they arise as part of their sustainability program.

As there were no anticipated reductions noted in each of the plans for the toxic substances noted above, there were no reductions of any toxic substances during the reporting period that would be attributable to any reduction plan.

Certification Statement

As of May 30, 2018, I certify that I have read the reports on the toxic substance reduction plans for the above noted substances 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 the Act.

The original version of this report is signed off by: Highest Ranking Employee:

Title:

Phone Number:

Dave Murray
Operations Manager
905-454-6897

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.

Comparison of Reported Quantities

Substance	CASRN	Report Year	Used	Created	In Product	Air	Water	Disposal	Recycle
Arsenic (Units kg)	NA - 02	2016	>1000 - 10000	0.000	>1000 - 10000	>0 - 1	>0 - 1	0.000	>100 - 1000
		2017	>1000 - 10000	0.000	>1000 - 10000	>0 - 1	>0 - 1	0.000	>100 - 1000
		Change	>100 - 1000	0.000	>100 - 1000	>0 - 1	>0 - 1	0.000	>100 - 1000
		% Change	7.6%	0.0%	26.2%	-27.7%	-5.2%	0.0%	-27.6%
Cadmium (Units kg)	NA - 03	2016	>1000 - 10000	0.000	>100 - 1000	>0 - 1	>0 - 1	0.000	>1000 - 10000
		2017	>1000 - 10000	0.000	>100 - 1000	>0 - 1	>0 - 1	0.000	>100 - 1000
		Change	>100 - 1000	0.000	>100 - 1000	>0 - 1	>0 - 1	0.000	>10 - 100
		% Change	-19.0%	0.0%	-48.0%	-28.4%	-5.2%	0.0%	-2.7%
Chlorine (Units Mg)	7782-50-5	2016	>10 - 100	0.000	>0 - 1	>0 - 1	>0 - 1	0.000	>10 - 100
		2017	>10 - 100	0.000	>0 - 1	>0 - 1	>0 - 1	0.000	>10 - 100
		Change	>10 - 100	0.000	>0 - 1	>0 - 1	>0 - 1	0.000	>0 - 1
		% Change	-16.8%	0.0%	0.0%	-17.7%	0.0%	0.0%	-0.3%
Copper (Units Mg)	NA - 06	2016	>100 - 1000	0.000	>10 - 100	>0 - 1	>0 - 1	0.000	>10 - 100
		2017	>100 - 1000	0.000	>10 - 100	>0 - 1	>0 - 1	0.000	>10 - 100
		Change	>10 - 100	0.000	>10 - 100	>0 - 1	>0 - 1	0.000	>1 - 10
		% Change	-12.5%	0.0%	-23.5%	-13.0%	-5.2%	0.0%	2.8%
Hydrochloric Acid (Units Mg)	7647-01-0	2016	>100 - 1000	0.000	>0 - 1	>1 - 10	>0 - 1	0.000	0.000
		2017	>100 - 1000	0.000	>0 - 1	>1 - 10	>0 - 1	0.000	0.000
		Change	>10 - 100	0.000	>0 - 1	>0 - 1	>0 - 1	0.000	0.000
		% Change	-11.9%	0.0%	0.0%	-22.2%	0.0%	0.0%	0.0%
Lead (Units kg)	NA - 08	2016	>10000 - 100000	0.000	>1000 - 10000	>1 - 10	>0 - 1	>1000 - 10000	>1000 - 10000
		2017	>10000 - 100000	0.000	>1000 - 10000	>1 - 10	>0 - 1	>1000 - 10000	>1000 - 10000
		Change	>100 - 1000	0.000	>100 - 1000	>0 - 1	>0 - 1	>100 - 1000	>1000 - 10000
		% Change	-1.3%	0.0%	4.4%	-15.6%	-5.2%	19.6%	-26.4%
Selenium (Units kg)	NA - 12	2016	>1000 - 10000	0.000	>1000 - 10000	>0 - 1	>1 - 10	0.000	>10 - 100
		2017	>1000 - 10000	0.000	>1000 - 10000	>0 - 1	>1 - 10	0.000	>10 - 100
		Change	>1000 - 10000	0.000	>1000 - 10000	>0 - 1	>0 - 1	0.000	>10 - 100
		% Change	-60.3%	0.0%	-61.1%	0.0%	-5.2%	0.0%	-34.6%
Silver (Units Mg)	NA - 13	2016	>1000 - 10000	0.000	>1000 - 10000	>0 - 1	>0 - 1	0.000	>10 - 100
		2017	>100 - 1000	0.000	>100 - 1000	>0 - 1	>0 - 1	0.032	>10 - 100
		Change	>100 - 1000	0.000	>100 - 1000	>0 - 1	>0 - 1	0.032	>10 - 100
		% Change	-50.8%	0.0%	-50.9%	-1.0%	-5.2%	0.0%	-45.6%
Zinc (Units Mg)	NA - 14	2016	>10 - 100	0.000	>10 - 100	>0 - 1	>0 - 1	0.000	>10 - 100
		2017	>10 - 100	0.000	>10 - 100	>0 - 1	>0 - 1	0.000	>10 - 100
		Change	>10 - 100	0.000	>10 - 100	>0 - 1	>0 - 1	0.000	>0 - 1
		% Change	-25.9%	0.0%	-47.6%	-0.4%	-5.2%	0.0%	-0.6%
Nitrate ion (in solution at a pH of 6.0 or (Units Mg)	NA - 17	2016	>100 - 1000	0.000	0.000	0.000	0.000	0.000	0.000
		2017	>100 - 1000	0.000	0.000	0.000	0.000	0.000	0.000
		Change	>10 - 100	0.000	0.000	0.000	0.000	0.000	0.000
		% Change	-24.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nitric Acid (Units Mg)	7697-37-2	2016	>100 - 1000	0.000	0.000	0.000	0.000	>0 - 1	0.000
		2017	>100 - 1000	0.000	0.000	0.000	0.000	>0 - 1	0.000
		Change	>10 - 100	0.000	0.000	0.000	0.000	>0 - 1	0.000
		% Change	-24.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Note: Red values indicate a decrease in the quantity reported in the current year relative to the previous year.