

2019 TOXICS REDUCTION ACT

**Report on Toxic Substance
Accounting Requirements**

VERSION 1.0

Petro-Canada Lubricants Inc.
385 Southdown Road
Mississauga, Ontario
L5J 2Y3

July 2020



July, 2020
Version 1.0

Version Control

| Version | Date Issued | Modifications |
|----------------|--------------------|-------------------------------------------------------------|
| Original | July 2020 | Original version made available to the public and employees |

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1.0 INTRODUCTION

Petro-Canada Lubricants Inc. (PCLI), a HollyFrontier business, is a world-scale supplier of products ranging from automobile lubricants to white oils for the pharmaceutical market. Our lubricants facility in Mississauga, Ontario, is the largest North American producer of high margin Group III base oils. The site also produces finished lubricants, specialty fluids, greases, process oils, and white oils. These products are marketed in 80 countries worldwide to a diverse customer base through a global sales force and distributor network.

The Lubricants Centre is located on the shore of Lake Ontario beside a residential community in Mississauga, Ontario.

Protection of the environment is a fundamental PCLI value. It is our responsibility to determine and manage the impacts of our business through programs like the Toxics Reduction Act (Act).

This annual toxics substance accounting report has been prepared to meet the regulatory obligations specified in Section 10 of the Act and has been prepared in accordance with the requirements of Section 27(1) of Ontario Regulation (O. Reg.) 455/09, as amended from time to time. It summarizes the relevant reporting requirements and will be updated, as required by the Act and O. Reg. 455/09.

For more information on the Act and O. Reg. 455/09 visit: <https://www.ontario.ca/page/toxics-reduction-program>.

2.0 REPORTING CRITERIA

Section 3(1) of the Act specifies the criteria requiring the preparation of a toxic substance plan. These criteria are as follows:

3. (1) The owner and the operator of a facility shall ensure that a toxic substance reduction plan is prepared for a toxic substance in accordance with this Act and the regulations if all of the following criteria are met:

- 1. The facility belongs to a class of facilities prescribed by the regulations.*
- 2. The number of persons employed at the facility exceeds the number of persons prescribed by the regulations.*
- 3. The toxic substance is used or created at the facility and the amounts of the substance that are used or created meet the criteria prescribed by the regulations.*
- 4. Such other criteria as are prescribed by the regulations. 2009, c. 19, s. 3 (1).*

Specific criteria are outlined in O. Reg. 455/09. The following sections detail the criteria and applicability to the PCLI facility.

2.1 Class of Facility

Section 4(1) of O. Reg. 455/09 specifies the types of facilities subject to toxic substance reduction planning and includes facilities that begin in North American Industry Classification System code “31”, “32” or “33” and “212”.

The PCLI facility carries out processes and activities related to “Petroleum and Coal Product Manufacturing”, which begins in NAICS code “32”, which is a code identified in O. Reg. 455/09.

2.2 Number of Persons

Section 5 of O. Reg. 455/09 specifies the numbers of persons at a facility must be greater than zero. As of December 31, 2019, the PCLI facility employed 450 persons.

2.3 Amounts of Toxic Substance Used or Created

Section 6 of O. Reg. 455/09 specifies that amounts of a toxic substance used or created must exceed zero. The use or creation of toxic substances for which accounting is required is greater than zero (refer to Section 4).

2.4 Other Criteria

Section 7(1) of O. Reg. 455/09 requires the owner and operator of a facility provide information on National Pollutant Release Inventory (NPRI) substances if reporting to the NPRI is required; or if

the substance is acetone and reporting under Ontario Regulation 127/01 (Airborne Contaminant Discharge Monitoring and Reporting) made under the Environmental Protection Act applies.

In 2019, PCLI was required to report to the NPRI. Specifically, PCLI met the reporting requirements for the following substances listed in Schedule A of O. Reg. 455/09:

NPRI Part 1A Substances:

- 1,2,4-Trimethylbenzene
- Asbestos
- Benzene
- Biphenyl
- Cyclohexane
- Diethanolamine
- Ethylbenzene
- Hexane (-n)
- Hydrogen Sulphide
- Methanol
- Methyl Ethyl Ketone
- Molybdenum Trioxide
- Naphthalene
- Nickel compounds
- Propylene
- Sulphuric Acid
- Toluene
- Total Reduced Sulphur
- Xylene (all isomers)
- Zinc compounds

NPRI Part 4 Substances:

- Carbon Monoxide
- Nitrogen Oxides
- Total Particulate Matter
- PM10 - Particulate Matter <10 Microns
- PM2.5 - Particulate Matter <2.5 Microns
- Sulphur Dioxide

NPRI Part 5 Substances:

- Butane (all isomers)
- Hexane (-n) (*also reported as a Part 1A Substance*)
- Isopropyl Alcohol
- Methanol (*also reported as a Part 1A Substance*)
- Methyl Ethyl Ketone (*also reported as a Part 1A Substance*)
- Propane
- Propylene (*also reported as a Part 1A Substance*)
- Pentane (all isomers)
- Toluene (*also reported as a Part 1A Substance*)

3.0 GENERAL FACILITY INFORMATION

Table 3-1 summarizes the general facility information with reference to the Act and/or O. Reg. 455/09.

Table 3-1: General Facility Information

| Reporting Requirement | Facility Information | Reference to Act and/or O. Reg. 455/09 |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Parent Company Name | HollyFrontier Corporation | O. Reg. 455/09 s.18(2) subparagraph 14 |
| Parent Company Address | 2828 N. Harwood, Suite 1300 Dallas, TX 75201 | O. Reg. 455/09 s.18(2) subparagraph 14 |
| Facility Name | Mississauga Lubricants Centre | O. Reg. 455/09 s.18(2) subparagraph 4 |
| Facility Address | 385 Southdown Road Mississauga, Ontario L5J 2Y3 | O. Reg. 455/09 s.18(2) subparagraph 4 |
| Universal Transverse Mercator (UTM) in North American Datum (NAD83) | Zone 17 X [m] 612097 Y [m] 4817199 | O. Reg. 455/09 s.18(2) subparagraph 13 |
| National Pollutant Release Inventory Identification Number | 3899 | O. Reg. 455/09 s.18(2) subparagraph 2 |
| Ontario Regulation 127/01 Identification Number | 5119 | O. Reg. 455/09 s.18(2) subparagraph 3 |
| Two Digit North American Industry Classification System (NAICS) Code | 32 – Manufacturing | O. Reg. 455/09 s.18(2) subparagraph 6 |
| Four Digit North American Industry Classification System (NAICS) Code | 3241 – Petroleum and Coal Product Manufacturing | O. Reg. 455/09 s.18(2) subparagraph 6 |
| Six Digit North American Industry Classification System (NAICS) Code | 324190 – Other Petroleum and Coal Product Manufacturing CAN | O. Reg. 455/09 s.18(2) subparagraph 6 |
| Number of Full-time Employee Equivalents at the Facility | 450 (as of December 31, 2019) | O. Reg. 455/09 s.18(2) subparagraph 5 |
| Facility Public Contact | Corinn Smith Director, Communications & Public Affairs 2310 Lakeshore Road W Mississauga, Ontario, L5J 1K2 Tel: 905-491-0397 Email:Corinn.Smith@hollyfrontier.com | O. Reg. 455/09 s.18(2) subparagraph 7 |

4.0 SUBSTANCE REPORTING

In accordance with s. 26(1) subparagraphs 2 and 7, PCLI made determinations for each substance reportable under the Act as follows:

- 1) The amount of the substance that enters a process as the substance itself or as a constituent of another substance.
- 2) The amount of the substance that is created.

- 3) If the substance is a NPRI substance,
 - i. quantifications relating to its release, disposal and transfer that,
 - A. are required to be provided under the NPRI Notice, or
 - B. are determined through mass balance, published emission factors, site specific emission factors or engineering estimates, if no quantifications were required to be provided under the NPRI Notice, and
 - ii. the amount of the substance that is contained in product, other than a substance that is identified as a criteria air contaminant or a volatile organic compound in the NPRI Notice.
- 4) If the toxic substance is acetone, the calculations mentioned in subsection 4 (3) of Ontario Regulation 127/01 (Airborne Contaminant Discharge Monitoring and Reporting) made under the Environmental Protection Act.

For the purposes of maintaining confidentiality, PCLI has reported 'Use', 'Created" and 'Contained in Product' quantities in the bands and ranges prescribed by the Ontario Ministry of the Environment. The band and ranges specified by the Ontario Ministry of the Environment are summarized as follows:

- >0 to 1
- >1 to 10
- >10 to 100
- >100 to 1,000
- >1,000 to 10,000
- >10,000 to 100,000
- >100,000 to 1,000,000

The units of measure depend upon the substance being reported under the NPRI and O. Reg. 127/01. Generally, release, disposal and recycling quantities are reported in tonnes. However, for substances with alternate reporting thresholds, these quantities are reported in kilograms or grams.

- NPRI Part 1A – Substances listed at the original NPRI threshold [tonnes]
- NPRI Part 1B – Metals listed at an alternate threshold [kilograms]
- NPRI Part 2 – Polycyclic aromatic compounds (PAHs), [kilograms]
- NPRI Part 3 – Hexachlorobenzene (HCB), Dioxins/furans (toxic equivalent), [grams]
- NPRI Part 4 – Criteria Air Contaminants (CACs) [tonnes]
- NPRI Part 5 – Speciated volatile organic compounds [tonnes]
- O. Reg. 127/01 – Acetone [tonnes]

The following sections summarize the information outlined above for each substance.

Note:

'—' is equal to zero in the tables below.

'0.0000' is a value greater than zero and greater than four (4) decimal places.

4.1 1,2,4-Trimethylbenzene (CAS Number 95-63-6)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|----------------------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 44% | 622.1 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 30% | 1,099.74 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 33% | 1,721.85 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.07 | 0.07 | -7% | -0.01 | Lower total WWTP flow. Lower HTU LDAR fugitive emissions |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.2 Asbestos (CAS Number 1332-21-4)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|------------------------------------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| Air Releases (tonnes) | — | — | — | — | No significant change |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | 6.60 | 19.10 | -65% | -12.50 | Facility opted to decrease disposal of substance this year |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.3 Benzene (CAS Number 71-43-2)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|----------------------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 42% | 558.25 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >10,000 to 100,000 | >1,000 to 10,000 | 33% | 2,613.26 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >10,000 to 100,000 | >1,000 to 10,000 | 34% | 3,171.13 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.24 | 0.35 | -31% | -0.11 | Lower total WWTP flow; lower HTU LDAR fugitive emissions |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.4 Biphenyl (CAS Number 92-52-4)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 14% | 638.27 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >0 to 1 | >0 to 1 | 3% | 0.0002 | No significant change |
| Contained in Product (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 34% | 602.84 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.013 | 0.015 | -11% | -0.0016 | Lower HTU LDAR fugitive emissions |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.5 Cyclohexane (CAS Number 110-82-7)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 45% | 1,601.28 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >100 to 1,000 | >100 to 1,000 | 4% | 11.78 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 41% | 1,172.32 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.129 | 0.087 | 48% | 0.042 | Tank contents changed from ISO to Naphtha |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.6 Diethanolamine (CAS Number 111-42-2)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|-------------------------------------------------------------------|
| Use (tonnes) | >10 to 100 | >10 to 100 | 56% | 26.58 | Increased quantity purchased due to contamination of amine system |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| All Media Releases (tonnes) | 0.19 | 0.20 | -4% | -0.01 | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.7 Ethylbenzene (CAS Number 100-41-4)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 42% | 434.27 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 29% | 734.24 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 33% | 1,168.17 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.14 | 0.15 | -11% | -0.02 | Lower tank throughputs |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.8 Hexane (-n) (CAS Number 110-54-3)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 45% | 2,832.91 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 27% | 1,585.97 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >10,000 to 100,000 | >10,000 to 100,000 | 40% | 4,461.89 | Increased production in Hydrobon Platformer |
| Air Releases (tonnes) | 4.96 | 4.90 | 1% | 0.06 | No significant change |
| Water Releases (tonnes) | — | — | N/A | N/A | No significant change |
| Land Releases (tonnes) | — | — | N/A | N/A | No significant change |
| On-site Disposal (tonnes) | — | — | N/A | N/A | No significant change |
| Transferred for Disposal (tonnes) | — | — | N/A | N/A | No significant change |
| Transferred for Treatment (tonnes) | — | — | N/A | N/A | No significant change |
| Transferred for Recycling (tonnes) | — | — | N/A | N/A | No significant change |

4.9 Hydrogen Sulphide (CAS Number 7783-06-4)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >10,000 to 100,000 | >10,000 to 100,000 | -1% | -156.43 | No significant change |
| Contained in Product (tonnes) | >0 to 1 | >0 to 1 | -26% | -0.13 | Lower sulphur content in VGO feed |
| All Media Releases (tonnes) | 0.63 | 0.53 | 19% | 0.10 | Increased throughput of plant slop and sour water |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.10 Methanol (CAS Number 67-56-1)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|----------------------------------------------------|
| Use (tonnes) | >10 to 100 | >10 to 100 | -54% | -13.8 | Less methanol was required for the fuel gas system |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| Air Releases (tonnes) | 1.16 | 2.54 | -54.49% | -1.39 | Decreased methanol usage in plant air system |
| Water Releases (tonnes) | — | — | N/A | N/A | No significant change |
| Land Releases (tonnes) | — | — | N/A | N/A | No significant change |
| On-site Disposal (tonnes) | — | — | N/A | N/A | No significant change |
| Transferred for Disposal (tonnes) | — | — | N/A | N/A | No significant change |
| Transferred for Treatment (tonnes) | — | — | N/A | N/A | No significant change |
| Transferred for Recycling (tonnes) | — | — | N/A | N/A | No significant change |

4.11 Methyl Ethyl Ketone (CAS Number 78-93-3)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|-------------------------------------|
| Use (tonnes) | >100 to 1,000 | >100 to 1,000 | 0% | 0.8 | No significant change |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| Air Releases (tonnes) | 0.38 | 1.19 | -68.21% | -0.81 | Lower Dewax LDAR fugitive emissions |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.12 Molybdenum Trioxide (CAS Number 1313-27-5)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------|
| Use (tonnes) | >10 to 100 | >10 to 100 | -14% | -3.67 | No catalyst turnarounds in 2019 |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| Air Releases (tonnes) | — | — | — | — | No significant change |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | 0 | 3.67 | -100% | -3.67 | No catalyst turnarounds in 2019 |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | 0 | 10.84 | -100% | -10.84 | No catalyst turnarounds in 2019 |

4.13 Naphthalene (CAS Number 91-20-3)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | -13% | -530.2 | Decreased production in HTU #1 and Dewax. |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | >100 to 1,000 | >100 to 1,000 | 16% | 59.35 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.035 | 0.042 | -17% | -0.007 | Lower HTU LDAR fugitive emissions |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.14 Nickel (CAS Number, Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------|
| Use (tonnes) | >1 to 10 | >1 to 10 | -6% | -0.57 | No catalyst turnarounds in 2019 |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| All Media Releases (tonnes) | 0.12 | 0.11 | 10 % | 0.01 | Increased usage of fuel oil |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | 0.58 | -100% | -0.58 | No catalyst turnarounds in 2019 |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | 12.42 | -100% | -12.42 | No catalyst turnarounds in 2019 |

4.15 Propylene (CAS Number 115-07-1)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >100 to 1,000 | >100 to 1,000 | -49% | -143.70 | Less propylene purchased and used |
| Created (tonnes) | >1 to 10 | >1 to 10 | 15% | 0.54 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| Air Releases (tonnes) | 12.16 | 57.68 | -79% | -45.53 | No major leaks from Dewax unit |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.16 Sulphuric Acid (CAS Number 7664-93-9)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|------------------------------------------------------------|
| Use (tonnes) | >10 to 100 | >10 to 100 | -33% | -23.74 | Decreased use in wastewater treatment |
| Created (tonnes) | >10 to 100 | >10 to 100 | -50% | -10.31 | Decreased sulphuric acid production in amine/sulphur plant |
| Contained in Product (tonnes) | — | — | — | — | No significant change |
| Air Releases (tonnes) | 20.22 | 20.72 | -2.4% | -0.50 | No significant change |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.17 Toluene (CAS Number 108-88-3)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|-------------------------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 37% | 1,734.52 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >10,000 to 100,000 | >10,000 to 100,000 | 31% | 5,501.43 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >10,000 to 100,000 | >10,000 to 100,000 | 32% | 7,266.96 | Increased production in Hydrobon Platformer |
| Air Releases (tonnes) | 0.79 | 1.46 | -46% | -0.67 | Lower Dewax, Hydrobon and Tank Farm LDAR fugitive emissions |
| Water Releases (tonnes) | 0.0052 | 0.0047 | 11% | 0.0005 | Increased heat exchanger flow |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.18 Total Reduced Sulphur (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >10,000 to 100,000 | >10,000 to 100,000 | -1% | -156.43 | No significant change |
| Contained in Product (tonnes) | >0 to 1 | >0 to 1 | -26% | -0.13 | Lower sulphur content in VGO feed |
| Air Releases (tonnes) | 0.63 | 0.53 | 19% | 0.10 | Increased throughput of plant slop and sour water |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.19 Xylene (CAS Number 1330-20-7)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 42% | 2,046.67 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 26% | 2,067.68 | Increased production in Hydrobon Platformer |
| Contained in Product (tonnes) | >10,000 to 100,000 | >10,000 to 100,000 | 32% | 4,112.57 | Increased production in Hydrobon Platformer |
| All Media Releases (tonnes) | 0.48 | 0.53 | -11% | -0.06 | Decreased wastewater treatment |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.20 Zinc (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|------------------------------------|---------------------|---------------------|------------|-----------------|-------------------------------------------------------------------------------|
| Use (tonnes) | >10 to 100 | >10 to 100 | -39% | -30.61 | No catalyst turnarounds in 2019 |
| Created (tonnes) | — | — | — | — | No significant change |
| Contained in Product (tonnes) | >10 to 100 | >10 to 100 | -42% | -22.48 | Lower addition of Zn contained in additives to finished lube oils and greases |
| All Media Releases (tonnes) | 0.12 | 0.11 | 5% | 0.01 | No significant change |
| Water Releases (tonnes) | — | — | — | — | No significant change |
| Land Releases (tonnes) | — | — | — | — | No significant change |
| On-site Disposal (tonnes) | — | — | — | — | No significant change |
| Transferred for Disposal (tonnes) | — | 8.14 | -100% | -8.14 | No catalyst turnarounds in 2019 |
| Transferred for Treatment (tonnes) | — | — | — | — | No significant change |
| Transferred for Recycling (tonnes) | — | — | — | — | No significant change |

4.21 Carbon Monoxide (CAS Number 630-08-0)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|-----------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >10 to 100 | >10 to 100 | 4% | 2.85 | No significant change |
| Air Releases (tonnes) | 71.49 | 68.64 | 4% | 2.85 | No significant change |

4.22 Nitrogen Oxides (CAS Number 11104-93-1)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|-----------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >100 to 1,000 | >100 to 1,000 | 3% | 17.66 | No significant change |
| Air Releases (tonnes) | 664.89 | 647.23 | 2.7% | 17.66 | No significant change |

4.23 Total Particulate Matter (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|--------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >10 to 100 | >10 to 100 | 10% | 4.41 | No significant change |
| Air Releases (tonnes) | 50.53 | 46.12 | 10% | 4.41 | Increased LRF usage in boilers |

4.24 PM10 – Particulate Matter <10 Microns (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|--------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >10 to 100 | >10 to 100 | 22% | 5.00 | Increased LRF usage in boilers |
| Air Releases (tonnes) | 27.34 | 22.34 | 22% | 5.00 | Increased LRF usage in boilers |

4.25 PM2.5 – Particulate Matter <2.5 Microns (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|--------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >10 to 100 | >10 to 100 | 26% | 3.45 | Increased LRF usage in boilers |
| Air Releases (tonnes) | 16.95 | 13.50 | 26% | 3.45 | Increased LRF usage in boilers |

4.26 Sulphur Dioxide (CAS Number 7446-09-5)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|-----------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >100 to 1,000 | >100 to 1,000 | 9% | 59.54 | No significant change |
| Air Releases (tonnes) | 760.36 | 700.82 | 9% | 59.54 | No significant change |

4.27 Butane (all isomers) (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >100 to 1,000 | >100 to 1,000 | 40% | 154.08 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 11% | 735.67 | Increased production in Hydrobon Platformer |
| Air Releases (tonnes) | 8.97 | 6.75 | 33% | 2.22 | Increased production in Hydrobon Platformer |

4.29 Isopropyl Alcohol (CAS Number 67-63-0)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | — | — | — | — | No significant change |
| Created (tonnes) | >1 to 10 | >1 to 10 | 18% | 1.00 | Increased production in Hydrobon Platformer |
| Air Releases (tonnes) | 6.53 | 5.53 | 18% | 1.00 | Increased production in Hydrobon Platformer |

4.30 Pentane (all isomers) (CAS Number Not Applicable)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 51% | 1,047.89 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | 26% | 1,969.14 | Increased production in Hydrobon Platformer |
| Air Releases (tonnes) | 10.25 | 7.36 | 39% | 2.89 | Increased production in Hydrobon Platformer |

4.31 Propane (CAS Number 74-98-6)

| Required Information | 2019 Reporting Year | 2018 Reporting Year | Change (%) | Change (tonnes) | Rationale For Change |
|-----------------------|---------------------|---------------------|------------|-----------------|---------------------------------------------|
| Use (tonnes) | >100 to 1,000 | >100 to 1,000 | 13% | 51.47 | Increased production in Hydrobon Platformer |
| Created (tonnes) | >1,000 to 10,000 | >1,000 to 10,000 | -1% | -39.37 | No significant change |
| Air Releases (tonnes) | 7.14 | 5.42 | 32% | 1.73 | Increased production in Hydrobon Platformer |

5.0 TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

As described in the Toxic Substance Reduction Plan Summaries dated [December 1, 2013](#) and [December 3, 2012](#), there were no options identified for implementation, above and beyond the actions the Lubricants Centre has already taken, at this time. The plan will be reviewed in accordance with the Act and regulation, at which time, new options may be identified and considered for implementation.

Finally, there have been no amendments to the Toxic Substance Reduction Plan Summaries dated December 1, 2013 and December 3, 2012.

6.0 ANNUAL CERTIFICATION STATEMENT

In accordance with s.19 of O. Reg. 455/09, the highest ranking employee at the facility electronically certified the toxic substance plan. A copy of the electronic certification is provided in Attachment 1.

Attachment 1: Copy of Electronic Certification

Report Submission and Electronic Certification

NPRI - Electronic Statement of Certification

Specify the language of correspondence

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

Certifying Official (or authorized delegate)

Report Submitted by

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 2020-07-23, I, Jeffrey Danielson, 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

| | |
|------------|-------------------------------------------------|
| 1332-21-4 | Asbestos (friable form only) |
| 71-43-2 | Benzene |
| 92-52-4 | Biphenyl |
| NA - 24 | Butane (all isomers) |
| 630-08-0 | Carbon monoxide |
| 110-82-7 | Cyclohexane |
| 111-42-2 | Diethanolamine (and its salts) |
| 100-41-4 | Ethylbenzene |
| 7783-06-4 | Hydrogen sulphide |
| 67-63-0 | Isopropyl alcohol |
| 67-56-1 | Methanol |
| 78-93-3 | Methyl ethyl ketone |
| 1313-27-5 | Molybdenum trioxide |
| 91-20-3 | Naphthalene |
| 110-54-3 | n-Hexane |
| NA - 11 | Nickel (and its compounds) |
| 11104-93-1 | Nitrogen oxides (expressed as NO ₂) |

| | |
|-----------|--------------------------------------------------------|
| NA - 35 | Pentane (all isomers) |
| NA - M09 | PM10 - Particulate Matter |
| NA - M10 | PM2.5 - Particulate Matter |
| 74-98-6 | Propane |
| 115-07-1 | Propylene (propene) |
| 7446-09-5 | Sulphur dioxide |
| 7664-93-9 | Sulphuric acid |
| 108-88-3 | Toluene |
| NA - M08 | Total Particulate Matter |
| NA - M14 | Total reduced sulphur (expressed as hydrogen sulphide) |
| 1330-20-7 | Xylene (mixed isomers) |
| NA - 14 | Zinc (and its compounds) |

Company Name

Petro-Canada Lubricants Inc.

Highest Ranking Employee

Jeffrey Danielson

Report Submitted by

Jeffrey Danielson

Website address

www.hollyfrontier.com

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 |
|--------|-----------------|-------------------------------|----------|-------------|---------------------------------|
| 2019 | 2020-07-23 | Mississauga Lubricants Centre | Ontario | Mississauga | 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.