

Toxic Substance Reduction Plan
Public Summary Report
For Zinc (NA-14)

Shell Canada Limited
250 Laurier Blvd.
Brockville, Ontario

November 22, 2012

1. Facility Information

Facility NPRI No.	2122
Facility MOE No. if assigned	Not assigned
Company legal and trade names	Shell Canada Limited
Facility street/ mailing address	Brockville Lubricants Plant 250 Laurier Blvd. Brockville, Ontario, K6V 5V7
No. of full-time employee equivalent	73
2, 4, and 6 digit NAICS Codes	31-33 3241 324190
UTM spatial coordinates with NAD83 datum	18T 445136 Easting 18T 4941437 Northing
Legal name of Canadian parent company	Shell Canada Limited
Street and mailing address of parent company	400 4th Avenue Southwest, Calgary, Alberta, T2P 4V8
Percentage ownership of facility	100
Name, position, telephone no. of facility public contact	Randy Provencal Social Performance Manger 403-691-2980
Licence no. of TR Planner making recommendations to the plan	TSRP0006
Licence number of TR Planner signing plan certification	TSRP0006
Name of toxic substance for this report	Zinc
CAS No. of toxic substance for this report	NA-14
Name of other toxic substances for which plans have been prepared at the facility	None

2. Description of Why Zinc is Used or Created

Zinc is contained in a number of oil additives that are blended into numerous finished oil products produced by Shell Canada Limited in Brockville Ontario. Zinc is not created at this facility.

Zinc is a component of dialkyldithiophosphates, or ZDDP. ZDDP is used in many engine lubricants as the primary anti-wear additive to reduce wear in high-pressure contacts such as are found in the valve train and ring and liner areas of an engine. ZDDP also functions as an antioxidant in the lubricant, helping to prevent chain reaction oxidation events that can lead to engine oil breakdown and deposits.

3. Statement of Intent to Reduce Zinc

Zinc is a necessary component of some products produced by Shell. However, the toxics reduction plan details how Shell intends to assess and pursue all feasible opportunities to reduce non-product usages of zinc at the Brockville facility.

4. Zinc Reduction Objectives

Shell has a history of safe and responsible use of hazardous materials in Brockville, and has already invested significant resources to contain, recycle, and minimize the use of all hazardous materials. Going forward, Shell is committed to continuing to reduce the amount of zinc used by assessing material or feedstock substitution, product design or reformulation, equipment or process modification, spill and leak prevention, on-site reuse or recycling, improved inventory management or purchasing techniques, and training or improved operating procedures. The actual usage of zinc and achieved reductions will be documented and made available to public and Shell employees.

5. Zinc Reduction Options to be implemented within the Plan

1. Redesign leak accumulation at 1L filler to drain to T-111 (for product sale) and not pits/T-561 (for recycle)
 - a. Planned Reductions and timelines: 0.015 tonnes/year beginning July 2013
2. Establish lean manufacturing team to minimize oil wastage throughout plant operations -- train personnel on lean manufacturing, environmental impact of zinc, water reduction, contamination of waste oil, minimization of waste. Perform process streamlining, through kaizan and other methods, and establishing a zero spill culture, measure and track oil waste produced and set goals to reduce.
 - a. Planned Reductions and timelines:
 - i. 0.0064 tonnes/year beginning 2014
 - ii. 0.0128 tonnes/year beginning 2015
 - iii. 0.0192 tonnes/year beginning 2016
 - iv. 0.0256 tonnes/year beginning 2017

6. Toxic Substance Reductions Outside of this Plan

The following are toxic substance reductions that were undertaken outside of the plan:

1. In 2012, oil that was entrained in compressed air was diverted from waste by redirecting it to an oil demister and eventually used in the process.
2. In 2009 a flush segregation project reduced oil used for rinsing by separating non compatible raw materials into separate receipt processes, thus reducing rinse oil used in process.
3. The Shell Brockville Emergency conducts training on responding to spills regularly.
4. In 2007, new storage tanks were installed with additional high level spill protection measures in place to reduce the potential for spills.

7. Certifications

1. This toxic reduction plan summary for zinc accurately reflects the toxic reduction plan for zinc dated November 22, 2012.
2. Copies of the actual plan certifications are provided on the following page.

8. Certifications

8.1. Certification by Toxic Substance Reduction Planner

As of Nov 22, 2012, I John McGeough, certify that I am familiar with the processes at the Shell Canada Limited Brockville facility that uses or creates the toxic substance 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 November 22, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under the Act.

Toxic Substance: Zinc



John McGeough

TSRP0006

Licensed Planner No.

8.2. Certification by Highest Ranking Employee at Facility

As of Nov 22/12, I STEPHEN DOBIE, 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.

Toxic Substance: Zinc



Stephen Dobie, Plant Manager