# Acadian Platers Co. Ltd.

# Toxics Reduction Plan Public Report.

June 14th 2018

## Introduction

This report is a summary report of the Toxic Substance Reduction Plans prepared in accordance with the requirements of the Ontario Regulation 455/09 and is directed at members of the public.

This report will provide members of the public with information related to the facility's usage of substances regulated under the Ontario Toxics Reduction Act that meet reporting criteria. The report will provide details on the facilities usage of the designated substances as well as any steps the facility has taken to minimize the use and discharge of these chemicals to air, land and water.

## Facility and Contact Information.

The following table lists all of the facility details and contact information.

| Category | Relevant Information |
|---|---|
| TRA reportable substances | Zinc (and it's compounds) - CAS NA-14<br>Hydrochloric Acid - CAS 7647-01-0<br>Nitric acid - CAS 7697-37-2<br>Cobalt (and it's compounds) – CAS NA-05 |
| NPRI ID | 2541 |
| MOE O.Reg 127/01 ID | N/A |
| Legal and Trade Names of the Owner and Operator of the Facility | Acadian Platers Co. Ltd.<br>315 Rexdale Boulevard, Rexdale, Ontario. M9W 1R8. |
| Number of Full-Tine Employees (or equivalents) | 30 |
| NAICS codes | 332810 |
| Name, Position and Contact Information of Facility Public Contact. | Jim Sutherland<br>Technical Manager<br>6995 Davand Drive, Mississauga, Ontario, L5T 1L5.<br>905 564 1711 |
| UTM Co-ordinates | 17T 614136mE 4841050mN |
| Parent Company Legal Name | N/A |
| Parent Company Address | N/A |
| Parent Company Percentage Owned | N/A |

## Executive Summary

Acadian Platers Co. Ltd. operates a facility in Rexdale, Ontario that supplies metal finishing services to automotive parts suppliers. As required by the Toxic Reduction Act (TRA), this facility is required to make available and provide upon written request from a member of the public a report summarizing the toxic substance reduction plans for any designated substances that meet reporting criteria.

This plan summary accurately reflects the toxic substance reduction plans that have been created for zinc, hydrochloric acid, hexavalent chromium and nitric acid.

The facility has used four TRA reportable materials in the year 2017 for which plans have been prepared:
Zinc (CAS NA-14)
Hydrochloric Acid (CAS 7647-01-0)
Nitric acid (CAS 7697-37-2)
Cobalt (CAS NA-05)

At present the facility is investigating/implementing various options to:

1. reduce the use of these chemicals at the facility and
2. reduce the amount released to the environment.

Acadian Platers Co. Ltd. intends to reduce the use of cobalt.
(Cobalt is not created at Acadian Platers Co. Ltd.)

Acadian Platers Co. Ltd. was unable to successfully implement any reductions for hydrochloric acid.
(Hydrochloric acid is not created at Acadian Platers Co. Ltd.)

Acadian Platers Co. Ltd. has successfully eliminated the use of hexavalent chromium.
(Hexavalent chromium is not created at Acadian Platers Co. Ltd.)

Acadian Platers Co. Ltd. was unable to find any options to reduce the use of zinc and nitric acid that were both technically and economically feasible.
(Zinc and nitric acid are not created at Acadian Platers Co. Ltd.)

For information on 0n-site releases from the facility, as well as disposal and off-site recycling information please refer to the National Pollution Release Inventory's website.

## Reduction Plan Objectives.

Zinc - Objectives from the Toxic Substance Reduction Plan 10/10/2012

Objective: Acadian Platers prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Acadian will strive to reduce the amount of zinc that is used at the facility. Further this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

Hydrochloric Acid - Objectives from the Toxic Substance Reduction Plan 10/10/2012

Objective: Acadian prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Acadian will strive to reduce the amount of hydrochloric acid that is used at the facility. Further this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

Hexavalent Chromium – Objectives from the Toxic Substance Reduction Plan 10/10/2012

Objective: Acadian Platers prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Acadian will strive to reduce the amount of Hexavalent Chromium that is used at the facility. Further this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

The use of hexavalent chromium has been eliminated.

Nitric Acid - Objectives from the Toxic Substance Reduction Plan 12/02/2013

Objective: Acadian Platers prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Acadian Platers will strive to reduce the amount of nitric acid that is used at the facility. Further this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

Cobalt - Objectives from the Toxic Substance Reduction Plan 11/18/2017

Objective: Acadian Platers prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Acadian will strive to reduce the amount of cobalt that is used at the facility. Further this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

## Description of why the toxic substance is used and/or created.

None of the following materials are created in any of our processes. The following describes the reason for their use.

**Zinc** – Zinc is applied to metal articles to protect them from corrosion extend their useful life and improve their appearance.

**Hydrochloric acid** – Hydrochloric acid is used to prepare metal articles for plating/coating. Hydrochloric acid removes surface scale and oxides and allows for the deposition of the subsequent coating.

**Hexavalent chromium** – This material is no longer used or created at Acadian Platers Co. Ltd.

**Nitric acid** – After zinc plating parts are immersed in a weak nitric acid solution to remove any residues from the surface and to polish the surface to improve the appearance. The parts are then go through a passivation step. The passivation solution uses nitric acid to maintain the pH of the solution at an optimum concentration for the creation of a thin passivation film on the zinc or zinc alloy plated parts. This passivation films inhibits corrosion of the zinc coating extending the useful life of the component.

**Cobalt** - Cobalt passivates are used to produce a thin passivate film on zinc and zinc alloy electroplated finishes. These coatings increase the durability of the coating extending the electroplated components service life by inhibiting corrosion of the electroplated coating on the component.

## Reduction Options Under Consideration for Implementation.

The facility is currently investigating various reduction options and will review the outcomes of these investigations on an ongoing basis. The reduction of toxic substances in the facility is considered an important objective for process and environmental initiatives,

**Implementation of Options for Reduction of hydrochloric acid.**

To reduce the use of hydrochloric acid at the facility, Acadian Platers had plans to implement the following options however we were unsuccessful in implementing these options:

Description and Timetable for Implementation.

| Description and Timetable for Implementation of Steps for Equipment or process modification Option.<br>94 line - increased drain time prior to the pickle tank to reduce drag in of water. Increased drain time over the pickle tank to recover more of the solution lost through drag out. | | |
|---|---|---|
| Step | Description | Estimated Timelines |
| 1 | Determination of amount of additional time required to achieve a 25% reduction in drag out on the 94. | Mar 31, 2013 |
| 2 | Evaluation on the effect of production of using the increased dwell times. | June 30, 2013 |
| 3 | Programming of PLC computers with additional dwell times. | Dec 31, 2013 |
| 4 | Evaluation and monitoring of the reduction in hydrochloric acid consumption as a result of the increased dwell times. | Jan 1, 2015 |

| Estimate of Reduction of hydrochloric Acid. | | |
|---|---|---|
| Type | Estimated reduction in tonnes (per cent of total for the plant.) | Anticipated dates for achieving reductions. |
| Use | 3.5 tonnes (5.3%) | Jan 1, 2015 |
| Creation | 0 tonnes (0.0%) | Not applicable |
| Release to air | 0.002 tonnes (0.003%) | Not applicable |
| Release to water | 0 tonnes (0.0%) | Not applicable |
| Release to land | 0 tonnes (0.0%) | Not applicable |
| Disposal off site | 0 tonnes (0.0%) | Not applicable |
| Disposal on site | 3.5 tonnes (5.3%) | Not applicable |
| Transfer off site for recycling | 0 tonnes (0.0%) | Not applicable |
| Contained in product. | 0.0 tonnes (0.0%) | Not applicable |

**Implementation of Options for Reduction of Hexavalent Chromium.**
To reduce the use of hexavalent chromium at the facility, Acadian Platers had plans to implement the following option and we were successful in eliminating the use of hexavalent chromium:

Description and Timetable for Implementation.

| Description and Timetable for Implementation of Steps for Equipment or process modification Option.<br>Eliminate the storage and use of chromic acid flake in the hexavalent black chromate. | | |
|---|---|---|
| Step | Description | Estimated Timelines |
| 1 | Discontinue the use of chromic acid in the hexavalent black chromate on the CEF line and Post Treat line. | Jan 1, 2013. |
| 2 | Dispose of all chromic acid flake currently in storage. | Jan 1, 2013 |

| Estimate of Reduction of hexavalent chromium. | | |
|---|---|---|
| Type | Estimated reduction in tonnes (per cent of total for the plant.) | Anticipated dates for achieving reductions. |
| Use | 20 kilograms (6.7%) | Jan 1, 2013 |
| Creation | 0 kilograms (0.0%) | Not applicable |
| Release to air | 0 kilograms (0.0%) | Not applicable |
| Release to water | 0 kilograms (0.0%) | Not applicable |
| Release to land | 0 kilograms (0.0%) | Not applicable |
| Disposal off site | 0 kilograms (0.0%) | Not applicable |
| Disposal on site | 0 kilograms (0.0%) | Not applicable |
| Transfer off site for recycling | 0 kilograms (0.0%) | Not applicable |
| Contained in product. | 0 kilograms (0.0%) | Not applicable |

**Implementation of Options for Reduction of Cobalt.**
To reduce the use of Cobalt containing passivates at the facility, Acadian Platers has plans to implement the following option:

| Description and Timetable for Implementation of Steps for Equipment or process modification Option.<br>Improving operating practices by increasing dwell time over passivate tanks. | |
|---|---|
| Description | Estimated Timelines |
| Increase employee awareness of the importance of conserving passivate chemistry on the CEF line by allowing adequate drainage time over the passivate tank. | Jan 1, 2018. |
| Ongoing monitoring of operator practices by supervisors. | Jan 1, 2019 |

| Estimate of Reduction of cobalt. | | |
|---|---|---|
| Type | Estimated reduction in tonnes (per cent of total for the plant.) | Anticipated dates for achieving reductions. |
| Use | 4.6 kilograms (1%) | Jan 1, 2019 |
| Creation | 0 kilograms (0.0%) | Not applicable |
| Release to air | 0 kilograms (0.0%) | Not applicable |
| Release to water | 0 kilograms (0.0%) | Not applicable |
| Release to land | 0 kilograms (0.0%) | Not applicable |
| Disposal off site | 2.3 kilograms (0.5%) | Not applicable |
| Disposal on site | 0 kilograms (0.0%) | Not applicable |
| Transfer off site for recycling | 0 kilograms (0.0%) | Not applicable |
| Contained in product. | 0 kilograms (0.0%) | Not applicable |

**Zinc** - No options were found to be technically and economically feasible.

Nit**ric acid** - No options were found to be technically and economically feasible.

## Planner information.

Planner license number for the planner who provided recommendations (or rationale for no recommendations) – James Sutherland TSRP0040.

Planner license number for the certifying planner - James Sutherland TSRP0040.

## Certifications

The facility's Highest Ranking Employee certified the reduction plans for each substance. Attached are copies of these certifications.

## 9.0 Certification by the highest-ranking employee and by the licensed planner.

**CERTIFICATION BY THE HIGHEST RANKING EMPLOYEE.**
As of October 31, 2012, I, Ronald Farrell, 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 the Act.

Zinc

Ronald Farrell
Operations Manager
Acadian Platers Co. Ltd.

**CERTIFICATION BY LICENSED PLANNER.**
As of October 31, 2012, I, James Sutherland, certify that I am familiar with the processes at Acadian Platers Ltd. that use or create the toxic substance referred to below, that I agree with the estimates referred to in subparagraph 7iii, iv and v of subsection 4(1) of the Toxic Reduction Act, 2009 that are set out in the plan dated October 10, 2012 and that the plan complies with the Act and Ontario Regulation 455/9 (General) made under the Act.

Zinc

James Sutherland (Planner license # TSRP0040)
Technical Manager/Toxic Substance Reduction Planner.
Acadian Group.

## 9.0 Certification by the highest-ranking employee and by the licensed planner.

**CERTIFICATION BY THE HIGHEST RANKING EMPLOYEE.**
As of October 31, 2012, I, Ronald Farrell, 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 the Act.

Hydrochloric acid

Ronald Farrell
Operations Manager
Acadian Platers Co. Ltd.

**CERTIFICATION BY LICENSED PLANNER.**
As of October 31, 2012, I, James Sutherland, certify that I am familiar with the processes at Acadian Platers Co. Ltd. that use or create the toxic substance referred to below, that I agree with the estimates referred to in subparagraph 7iii, iv and v of subsection 4(1) of the Toxic Reduction Act, 2009 that are set out in the plan dated October 10, 2012 and that the plan complies with the Act and Ontario Regulation 455/9 (General) made under the Act.

Hydrochloric acid

James Sutherland (Planner license # TSRP0040)
Technical Manager/Toxic Substance Reduction Planner.
Acadian Group.

## 9.0 Certification by the highest-ranking employee and by the licensed planner.

**CERTIFICATION BY THE HIGHEST RANKING EMPLOYEE.**
As of October 31, 2012, I, Ronald Farrell, 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 the Act.

Hexavalent Chromium.

Ronald Farrell
Operations Manager
Acadian Platers Co. Ltd.

**CERTIFICATION BY LICENSED PLANNER.**
As of October 31, 2012, I, James Sutherland, certify that I am familiar with the processes at Acadian Platers Co. Ltd. that use or create the toxic substance referred to below, that I agree with the estimates referred to in subparagraph 7iii, iv and v of subsection 4(1) of the Toxic Reduction Act, 2009 that are set out in the plan dated October 10, 2012 and that the plan complies with the Act and Ontario Regulation 455/9 (General) made under the Act.

Hexavalent Chromium.

James Sutherland (Planner license # TSRP0040)
Technical Manager/Toxic Substance Reduction Planner.
Acadian Group.

## 9.0 Certification by the highest-ranking employee and by the licensed planner.

**CERTIFICATION BY THE HIGHEST RANKING EMPLOYEE.**
As of December 2nd 2013, I, Ronald Farrell, 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 the Act.

Nitric acid

Ronald Farrell
Operations Manager
Acadian Platers Co.Ltd.

**CERTIFICATION BY LICENSED PLANNER.**
As of December 2nd 2013, I, James Sutherland, certify that I am familiar with the processes at Acadian Platers Co.Ltd. that use or create the toxic substance referred to below, that I agree with the estimates referred to in subparagraph 7iii, iv and v of subsection 4(1) of the Toxic Reduction Act, 2009 that are set out in the plan dated August 10, 2012 and that the plan complies with the Act and Ontario Regulation 455/9 (General) made under the Act.

Nitric acid

James Sutherland (Planner license # TSRP0040)
Technical Manager/Toxic Substance Reduction Planner.
Acadian Group.

## 9.0 Certification by the highest-ranking employee and by the licensed planner.

**CERTIFICATION BY THE HIGHEST RANKING EMPLOYEE.**
As of November 20, 2017, I, Ronald Farrell, 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 the Act.

Cobalt.

Ronald Farrell
Operations Manager
Acadian Platers Co. Ltd.

**CERTIFICATION BY LICENSED PLANNER.**
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Cobalt.

James Sutherland (Planner license # TSRP0040)
Technical Manager/Toxic Substance Reduction Planner.
Acadian Group.