Protec Finishing Ltd.

Toxics Reduction Plan Public Report

June 20, 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 its compounds) CAS NA-14 Hydrochloric Acid (CAS 7647-01-0) Nitric acid (CAS 9697-37-2) Cobalt (and its compounds) CAS NA-05
NPRI ID	2543
MOE O.Reg 127/01 ID	6320
Legal and Trade Names of the Owner and Operator of the Facility	Protec Finishing Ltd. 1820 Bonhill Road, Mississauga, Ontario, L5T1C4.
Number of Full-Tine Employees (or equivalents)	40
NAICS codes	332810
Name, Position and Contact Information of Facility Public Contact.	Jim Sutherland Technical Manager 6995 Davand Drive, Mississauga, Ontario, L5T 1L5. 905 564 1711
UTM Co-ordinates	17T 608974mE 4835954mN
Parent Company Legal Name	N/A
Parent Company Address	N/A
Parent Company Percentage Owned	N/A

Executive Summary

Protec Finishing Ltd. operates a facility in Mississauga, 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.

The facility has used four TRA reportable materials, zinc, hydrochloric acid, nitric acid and cobalt.

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.

Protec Finishing Ltd. was unable to successfully implement any reductions for hydrochloric acid.
(Hydrochloric acid is not created at Protec Finishing Ltd.)

Protec Finishing Ltd. was unable to find any options to reduce the use of zinc, nitric acid and cobalt that were both technically and economically feasible.
(Zinc, nitric acid and cobalt are not created at Protec Finishing 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, hydrochloric acid, nitric acid and cobalt are the TRA reportable substances that are used and released from this facility. The facility is committed to investigating methods and actions that will 1) reduce the amount of each TRA substance used at the facility and 2) decrease the amount of each TRA substance released to the environment.

Zinc - Objectives and Targets from The Toxic Substance Reduction Plan 10/10/2012

Objective: Protec prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Protec 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.

Target: As none of the options identified were economically/technically feasible there is no target for implementation.

Hydrochloric Acid - Objectives and Targets from The Toxic Substance Reduction Plan 10/10/2012

Objective: Protec prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Protec 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.

Target: To reduce the usage of hydrochloric acid on the Lake and Enterprise lines by 10.653 metric tonnes and the overall percentage used at the facility by 7% based on current production volumes.

Nitric Acid - Objectives and Targets from The Toxic Substance Reduction Plan 12/2/2013

Objective: Protec prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. Protec 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.

Target: As no options were found to be both technically and financially feasible there are no targets for implementation at this time.

Cobalt - Objectives and Targets from The Toxic Substance Reduction Plan 11/18/2017

Objective: Protec prides itself on technological innovation 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.

Target: As none of the options identified were economically/technically feasible there is no target for implementation.

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.

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, Protec had plans to implement the following options however we were unsuccessful in implementing these options:

Description and Timetable for Implementation of Steps of Option # 3.

Description and Timetable for Implementation of Steps for Equipment or process modification Option. 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 Lake line and Enterprise Line.	Mar 31, 2013
2	Evaluation on the effect of production of using the increased dwell times on the Lake line and Enterprise line.	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

Table 9. Estimate of Reduction of hydrochloric Acid by the implementation of Option # 3		
Type	Estimated reduction in tonnes (per cent of total for the plant.)	Anticipated dates for achieving reductions.
Use	10.653 tonnes (7.1%)	Jan 1, 2015
Creation	0 tonnes (0.0%)	Not applicable
Release to air	0.04 tonnes (6.6%)	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	10.61 tonnes (7.07%)	Not applicable
Transfer off site for recycling	0 tonnes (0.0%)	Not applicable
Contained in product.	0.0 tonnes (0.0%)	Not applicable

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.

Signatures have been removed from the following certifications and signed documents are available for review at the facility.

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
Protec Finishing Ltd.

CERTIFICATION BY LICENSED PLANNER.
As of October 31, 2012, I, James Sutherland, certify that I am familiar with the processes at Protec Finishing 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.
Hydrochloric acid

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

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Zinc

Ronald Farrell
Operations Manager
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Zinc

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Technical Manager/Toxic Substance Reduction Planner.
Acadian Group.

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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

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Operations Manager
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Cobalt.

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Operations Manager
Protec Finishing Ltd.

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Cobalt.

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