

## Executive Summary

West-Tech Finishing Inc. (West-Tech) operates a metal parts finishing facility located at 3-8065 Huntington Road in Vaughan, Ontario, in an industrial park approximately 1km north west of the intersection of Highway 7 and Highway 427. The facility currently operates under an Environmental Compliance Approval (ECA) (Air and Noise) (ECA No. 9824-9ZSJLM), issued by the Ontario Ministry of Environment Conservation and Parks (MECP), October 13<sup>th</sup>, 2015.

A copy of the Current ECA (Air) (No. 9824-9ZSJLM, issued October 13, 2015) is included in Appendix A. All eligible (i.e. heating) equipment has been registered in the Environmental Activity and Sector Registry (EASR), including one (1) air make up unit, two (2) heating units and one (1) air conditioning unit [EASR No. R-003-1368169769, Filed: Jul 30, 2013]. A copy of the Confirmation of Registration is included in Appendix A.

13577252 Canada Inc. was retained by West-Tech to prepare an up-to-date Emission Summary and Dispersion Modelling (ESDM) report for the facility at 3-8065 Huntington Road, Vaughan, Ontario, L4H 3T9. The dispersion modelling assessment has been updated to include:

- Use of the AERMOD (ver.22112) dispersion modelling software and AERMET (ver.22112) preprocessed regional meteorological data.
- Use of the Urban dispersion coefficient in AERMOD Control settings to better reflect the surrounding land use and population density.
- Updates to the ASHRAE assessment of same structure contamination to include additional potential receptor locations.
- Corrections to the tank size and vapour pressure data for the anodize line.

This ESDM report has been prepared as prescribed in the MECP Guideline A-10 guidance document “*Procedure for Preparing an Emissions Summary Dispersion Modelling Report, Version 4.0, February 2017*” (Guideline A-10). A copy of the Source Summary Table is presented as Table B1 in Appendix B.

Advanced air dispersion modelling of the facility’s emissions was performed according to the MECP Guideline A-11 guidance document “Air Dispersion Modelling Guideline for Ontario, Version 3, Guidance for Demonstrating Compliance with the Air Dispersion Modelling Requirements set out in Ontario Regulation 419/05 Air Pollution – Local Air Quality made under the Environmental Protection Act, February 2017” (ADMGO); using the Lakes Environmental Inc. AERMOD View (Version 12.0.0) Gaussian plume dispersion modelling software. The currently approved AERMOD (version 22112) software and AERMET (version 22112) processed meteorological data have been employed in the modelling assessment. The maximum point of impingement (POI) concentrations were determined from the aggregate contaminant emission rates from the facility.

The Facility’s North American Industry Classification System (NAICS) code is 332810, “Coating, Engraving, Heat Treating and Allied Activities” which falls under Schedule 5 of O. Reg.419. The maximum modelled concentrations for all contaminants of concern have been compared to the applicable regulatory guidelines and standards as published in the MECP Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants (version 2.0, April 2018).

Same structure contamination has been addressed using the methodology published in ASHRAE *Chapter 46 Building Air Intake and Exhaust Design [2019]* to determine the maximum predicted concentrations of COC's at the nearest air intakes on the shared building.

The worst-case scenario modelled results indicate that the maximum POI concentrations for all contaminants of concern are less than the respective POI limits at all off-site and same structure receptors. This ESDM report demonstrates that the West-Tech facility is capable of operating in compliance with O.Reg. 419/05 for all contaminants of concern under all operating scenarios.

The Emission Summary Table below, demonstrates that the West-Tech facility can operate in compliance with the applicable POI limits for all contaminants of concern. (Also available in Table B2 in Appendix B).

**Table 1-1: Emission Summary Table**

Contaminant	CAS#	Total Facility Emission Rate (g/s)	Dispersion Model Used	Maximum POI Conc. ( $\mu\text{g}/\text{m}^3$ )	Averaging Period (hours)	POI Limit ( $\mu\text{g}/\text{m}^3$ )	Limiting Effect	Regulation Schedule #	Category	% of POI Limit
Sulphuric Acid	7664-93-9	3.3E-07	AERMOD (v.22112)	6.0E-05	24	5	Health	Schedule 3	B1	<0.01%
			ASHRAE	2.2E-02	24	5	Health	Schedule 3	B1	0.4%