

**Axens Canada Specialty
Aluminas Inc.
Toxic Substance Annual
Report for Particulate Matter \leq
2.5 μm**



Prepared for:
Axens Canada Specialty
Aluminas Inc.

Prepared by:
Stantec Consulting Ltd.
400-1331 Clyde Avenue
Ottawa, ON K2C 3G1

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Sign-off Sheet

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Prepared by _____

Gizem Gunal-Akgol, P.Eng.

Atmospheric Engineer

Tel: (519) 569-8126

Fax: (519) 579-4239

ggunalakgol@stantec.com



Reviewed by _____

Nicole Flanagan, M.A.Sc., P.Eng.

Senior Atmospheric Engineer

Tel: (613) 738-6086

Fax: (613) 738-0721

nicole.flanagan@stantec.com

**AXENS CANADA SPECIALTY ALUMINAS INC.
TOXIC SUBSTANCE ANNUAL REPORT FOR PARTICULATE MATTER ≤ 2.5 µM**

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INTRODUCTION AND BASIC FACILITY INFORMATION
May 24, 2017

1.0 INTRODUCTION AND BASIC FACILITY INFORMATION

This Toxics Reduction Annual Report was prepared to meet the requirements of the Ontario Toxics Reduction Act (2009) (TRA) and Ontario Regulation 455/09 (the Regulation) for the Axens Canada Specialty Aluminas Inc. (Axens) facility located at 4000 Development Drive in Brockville, Ontario. The subject toxic substance is particulate matter of diameter less than or equal to $2.5 \mu\text{m}$ ($\text{PM}_{2.5}$) present at the facility.

The TRA and the Regulation require regulated facilities to undertake toxic substance accounting to better understand the quantities of toxic substances that are used, created, transformed, destroyed, released, and disposed of. As this substance is a criteria air contaminant listed in Part 4 of Schedule 1 of National Pollutant Release Inventory (NPRI) notices, the quantity of substance contained in product does not need to be evaluated under the TRA and the Regulation. For each substance, regulated facilities must develop a plan that examines how the amount of the substance used or created at the facility could be reduced or eliminated by implementing technically and economically feasible toxic substance reduction options. Axens has also prepared a plan for total particulate matter (PM) and a plan for particulate matter of diameter less than or equal to $10 \mu\text{m}$ (PM_{10}).

This Annual Report is for $\text{PM}_{2.5}$ in the 2016 reporting year and is accurate, up to date and reflects the current version of the plan (Axens Canada Specialty Aluminas Inc., Toxic Substance Reduction Plan for Particulate Matter $\leq 2.5 \mu\text{m}$, dated December 18, 2013).

1.1 BASIC FACILITY INFORMATION

Basic information of the subject facility is provided in Table 1.1 below.

Table 1.1 Basic Facility Information

Facility Information	
Company Name:	Axens Canada Specialty Aluminas Inc.
Facility Name:	Brockville Activated Alumina Plant
NPRI Identification Number:	11651
NAICS 2 Code:	32 - Manufacturing
NAICS 4 Code:	3259 - Other Chemical Product Manufacturing
NAICS 6 Code:	325999 - All Other Miscellaneous Chemical Product Manufacturing
Number of Full-time Employees:	60
Spatial Coordinates:	Latitude: 44.6243 Longitude: -77.7017
Datum:	1983

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Parent Company Information	
Legal Name of Parent Company:	Axens Canada Specialty Aluminas Inc.
Address of Parent Company:	666 Burrard St Park Place, No. Suite 1700 Vancouver, BC
Percentage of Facility Owned by Company:	100%
Toxic Substances for Which Facility Must Prepare Plan:	
Substance (CAS)	Particulate Matter (NA – M08) Particulate Matter ≤ 10 µm (NA – M09) Particulate Matter ≤ 2.5 µm (NA – M10)
Person Who Certified the Plan and Made Plan Recommendations	
Name:	Gizem Gunal-Akgol
TSRP License Number:	TSRP0238
Public Contact	
Name:	Jack Flannagan
Position:	General Manager
Address:	P.O. Box 250 Brockville, Ontario K6V 5V5
Phone Number:	613-342-6943 ext. 240
Fax Number:	613-342-6943
E-mail:	jflannagan@axenscanada.com

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STATEMENT OF INTENT AND OBJECTIVES
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2.0 STATEMENT OF INTENT AND OBJECTIVES

Total Particulate Matter $\leq 2.5 \mu\text{m}$ (PM_{2.5}) is the subject toxic substance of the Annual Report. The Axens facility is a producer of activated alumina products. No PM_{2.5} enters the process via raw materials or other channels. PM_{2.5} is created during processing of raw materials and products as well as during fuel combustion and welding operations. Some of the PM_{2.5} created during the process is recycled onsite and reused. The PM_{2.5} also exits the process via releases to air, off-site disposal and off-site recycling.

Axens does not currently intend to implement any toxics reduction options for PM_{2.5} due to the limitations on the materials and products imposed by the equipment and the customers, and because of the currently implemented procedures and equipment already in place to minimize the creation of toxics. These initiatives include:

- Use of clean-burning natural gas for most of the on-site combustion activities;
- Creation of a Best Management Practices Plan for the Operation and Maintenance of Processes with Significant Environmental Aspects;
- Creation of a Best Management Practices Plan for the Control of Fugitive Dust Emissions;
- Employment of full-time maintenance personnel;
- Use of onsite recycling of PM_{2.5};
- Training of forklift, welding and other process operators on standard procedures;
- Training of supervisors on facility best management practices;
- Training of pelletizer operators for PM_{2.5} minimization;
- Documentation of training received and maintenance of training database; and,
- Documentation of best management practices effectiveness.

These initiatives form the basis of the current plan and the facility's current toxics reduction efforts.

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SUMMARY OF FACILITY-WIDE ACCOUNTING INFORMATION
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3.0 SUMMARY OF FACILITY-WIDE ACCOUNTING INFORMATION

Facility-wide quantification data determined as a result of the toxic substance accounting performed for PM_{2.5} for the year 2016 is outlined in the table below.

Table 3.1 Facility-Wide Accounting

Category	Quantity Range (tonnes)
Enters Process	0
Created	100 to 1000
On-site Release to Air	10 to 100
Disposals to Off-site Facilities	10 to 100
Transfer to Off-Site Recycling	10 to 100
Transformed	10 to 100
Contained in Product	Not applicable

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PLAN PROGRESS
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4.0 PLAN PROGRESS

The following table is a summary of the changes in the quantity of PM_{2.5} accounted for at the facility between 2015 and 2016.

Table 4.1 Change in PM_{2.5} Quantities between 2015 and 2016

Category	Change % (tonnes)
Enters Process	Not applicable
Created	5.4% decrease (6.1 tonnes)
On-site Release to Air	11% increase (1.0 tonnes)
Disposals to Off-site Facilities	2.8% decrease (0.6 tonnes)
Transfer to Off-Site Recycling	7.8% decrease (1.2 tonnes)
Transformed	7.8% decrease (5.3 tonnes)
Contained in Product	Not applicable

There were no significant changes to the process or in the quantities of PM_{2.5} accounted for at the facility. No changes were made to the Toxic Substance Reduction Plan for Particulate Matter ≤ 2.5 µm, dated December 18, 2013.

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