



# **TOXICS SUBSTANCE REDUCTION PLAN SUMMARY – PHASE II SUBSTANCES**

**Holcim (Canada) Inc. – Mississauga Cement Plant**

**2391 Lakeshore Road West  
Mississauga, ON  
L5J 1K1**

**[www.holcim.ca](http://www.holcim.ca)**

**December 2013**



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# 1. Introduction

Commissioned in 1956, the Holcim Canada Mississauga Plant is one of the largest and most environmentally responsible suppliers of cement in Canada. The Plant employs approximately 185 people and has an annual capacity of 1.5 million tonnes of cement, plus 0.5 million tons of GranCem. Over the course of the last 57 years, the Mississauga Plant has witnessed ongoing technological advancements designed to meet the increasing needs of the marketplace, to improve environmental performance, to enhance employee safety and to mitigate impacts on the local community.

Holcim (Canada) Inc. is one of the country's largest vertically integrated building materials and construction companies. With 3,000 employees, Holcim (Canada) Inc. manufactures cement, aggregates and ready-mix concrete and provides construction services to many of Canada's largest infrastructure projects.

Holcim (Canada) Inc. is a member of Holcim Group, a Swiss-based multinational with operations in more than 70 countries worldwide. A leading global brand, Holcim is recognized for its long-term financial performance, its environmental leadership, corporate social responsibility and sustainable construction.

## 2. Reporting Criteria

Section 3(1) of the Toxics Reduction Act (TRA) specifies the criteria requiring the preparation of a toxic substance plan.

These criteria are as follows:

*3. (1) The owner and the operator of a facility shall ensure that a toxic substance reduction plan is prepared for a toxic substance in accordance with this Act and the regulations if all of the following criteria are met:*

*1. The facility belongs to a class of facilities prescribed by the regulations.*

*2. The number of persons employed at the facility exceeds the number of persons prescribed by the regulations.*

*3. The toxic substance is used or created at the facility and the amounts of the substance that are used or created meet the criteria prescribed by the regulations.*

*4. Such other criteria as are prescribed by the regulations. 2009, c. 19, s. 3 (1).*

Section 4(1) of O. Reg. 455/09 specifies the types of facilities subject to toxic substance reduction planning and includes facilities that begin in North American Industry Classification System (NAICS) code “31”, “32” or “33” and “212”. Holcim (Canada) Inc. – Mississauga operates under the category of “cement manufacturing”, and therefore has a NAICS code beginning with “32”.

The Mississauga Cement Plant was required to produce a Phase II Toxics Reduction Plan for the following substances:

- Acetone
- Ammonia
- Carbon Monoxide (CO)
- Nitrogen Oxides (NO<sub>x</sub>)
- Sulphur Dioxide (SO<sub>2</sub>)
- Particulate Matter - Total
- Particulate Matter - 10 microns
- Particulate Matter - 2.5 microns



## 3. General Facility Information

### 3.1 Company Information

<b>Parent Company Name</b>	Holcim (Canada) Inc.
<b>Parent Company Address</b>	2300 Steeles Ave. West, 4 <sup>th</sup> Floor Concord, Ontario L4K 5X6
<b>Facility Name</b>	Holcim (Canada) Inc. - Mississauga
<b>Facility Address</b>	2391 Lakeshore Road West Mississauga, Ontario L5J 1K1
<b>Universal Transverse Mercator (UTM) in North American Datum (NAD83)</b>	Zone: 17 Easting: 610948.37 Northing: 4816945.05
<b>National Pollutant Release Inventory Identification Number</b>	2182
<b>Ontario Regulation 127/01 Identification Number</b>	5112
<b>Two Digit North American Industry Classification System (NAICS) Code</b>	32 – Manufacturing
<b>Four Digit North American Industry Classification System (NAICS) Code</b>	3273 - Cement and Concrete Product Manufacturing
<b>Six Digit North American Industry Classification System (NAICS) Code</b>	327310 - Cement Manufacturing
<b>Number of Full-time Employee Equivalents at the Facility</b>	185



## 3.2 Contact Information

<b>Facility Public Contact</b>	Greg Zilberbrant Environment Manager 2391 Lakeshore Road West Mississauga, ON L5J 1K1 905 822-1653 ext. 4371 Greg.Zilberbrant@holcim.com
<b>Technical Contact</b>	Greg Zilberbrant
<b>Coordinator</b>	Greg Zilberbrant
<b>Highest Ranking Employee</b>	Marius Seglias Plant Manager 2391 Lakeshore Road West Mississauga, ON L5J 1K1 905 822-1653 ext. 4770
<b>License Number of Planner</b>	TSRP0045

## 4. Toxics Substances

For the purpose of this plan, toxic substances were organized into the following categories:

- Air Contaminants (CO, NO<sub>x</sub>, SO<sub>2</sub>)
- Acetone
- Ammonia
- Particulate Matter (PM total, PM10, PM2.5)

The purpose of these categories is to avoid duplication of information among toxic substances that share similar characteristics and qualities. This summary is an accurate reflection of the Mississauga Cement Plant Toxics Reduction Plan – Phase II Substances.

Air Contaminants - CO, NO <sub>x</sub> , SO <sub>2</sub>	
<b>Statement of Intent</b>	The Mississauga Cement Plant does not intend to reduce its created Carbon Monoxide (CO), Nitrogen Oxides (NO <sub>x</sub> ) and Sulphur Dioxide (SO <sub>2</sub> ). However, the facility does actively control releases through a number of secondary measures that, while effective, do not meet the criteria of reduction as prescribed by O. Reg. 455/09.
<b>Description of Substances</b>	<p><b>CO</b> CO is a compound created due to incomplete combustion of a fuel. The cement kiln is operated to ensure the most efficient levels of combustion which will still create some amount of CO.</p> <p><b>NO<sub>x</sub></b> The primary method in which NO<sub>x</sub> is created in cement kilns is through the oxidation of molecular nitrogen present in combustion air, known as thermal NO<sub>x</sub>. This phenomenon occurs during combustion of fuel at high temperatures required for the production of clinker.</p> <p><b>SO<sub>2</sub></b> SO<sub>2</sub> is formed by the oxidation of pyritic or organic sulfur content naturally occurring in raw materials.</p>

Acetone	
<b>Statement of Intent</b>	The Mississauga Cement Plant does not intend to reduce its use or creation of Acetone, a Volatile Organic Compound (VOC), in its processes. While the Mississauga Cement Plant does not intend to reduce its use of Acetone, it will continue to examine the conditions under which Acetone is created in its processes and explore reduction opportunities.
<b>Description of Substances</b>	The tracking of VOCs through the cement manufacturing process is a relatively complex task as there are instances of destruction and creation at various stages, depending on factors such as temperature and organic carbon found in raw meal. The facility is undertaking additional investigation to better understand how Acetone is created in its process.

Ammonia	
<b>Statement of Intent</b>	The Mississauga Cement Plant does not intend to reduce its use or creation of Ammonia in its process, however, it will continue to examine the conditions under which Ammonia is created in its processes and will explore reduction opportunities.
<b>Description of Substances</b>	<p>Ammonia is used in MI's processes as a control for NOx emissions. However, this injected ammonia is oxidized in the process.</p> <p>Ammonia is created in the kiln process through the reaction of Nitrogen and Hydrogen originating from fuel and raw material inputs, as a function of the kiln process required for the production of clinker.</p>

Particulate Matter – PM Total, PM 10, PM 2.5	
<b>Statement of Intent</b>	The Mississauga Cement Plant does not intend to reduce its use or creation of Particulate Matter (Total, <10 micron, <2.5 micron). However, the plant is fully committed to reducing Particulate Matter emission through secondary measures including the use of baghouse filters, preventative maintenance routines as well as the active implementation of its Fugitive Dust Control Plan.
<b>Description of Substances</b>	Particulate Matter indirectly enters the facility's process through the use of raw materials and dry fuels.



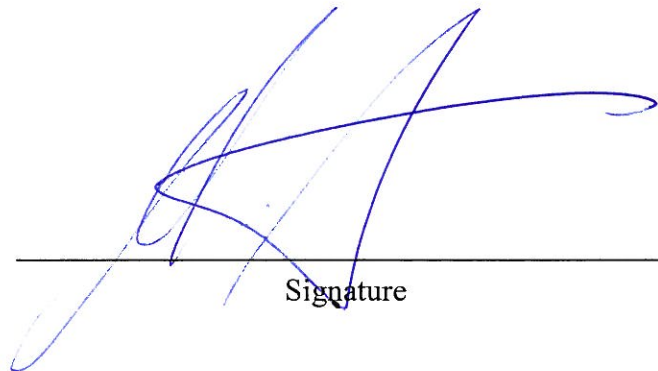


## 5. Options to be implemented

The Mississauga Plant does not intend to implement any of the options identified in its phase II Toxics Reduction Plan. However, the plant has numerous secondary measures to control emissions that, while effective, do not meet the criteria of reduction as prescribed in O. Reg. 455/09. This includes the use of Ammonia injection (SNCR) to control NO<sub>x</sub>, the injection of lime to control SO<sub>2</sub> and the use of baghouses and the active implementation of the fugitive dust control plan to control Particulate Matter. This is in addition to the implemented options listed in the facility's phase I Toxics Reduction Plan.

As of December 13, 2013, I Marius Seglias, certify that I have read the toxic substance reduction plan for the toxic substance(s) 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.


- Carbon Monoxide
- Nitrogen Oxides
- Sulphur Dioxide
- Acetone
- Ammonia
- Total Particulate Matter (TPM)
- Particulate Matter < 10 microns (PM 10)
- Particulate Matter < 2.5 microns (PM 2.5)



Signature

As of December 13, 2013, I Greg Zilberbrant, certify that I am familiar with the processes at Holcim (Canada) Inc. – Mississauga that use or create the toxic substance(s) 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 December 13, 2013 and that the plan complies with the Act and Ontario Regulation 455/09 (General) made under the Act.

- Carbon Monoxide
- Nitrogen Oxides
- Sulphur Dioxide
- Acetone
- Ammonia
- Total Particulate Matter (TPM)
- Particulate Matter < 10 microns (PM 10)
- Particulate Matter < 2.5 microns (PM 2.5)



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Greg Zilberbrant - License number TSRP0045