

## TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

This Toxic Substance Reduction Plan Summary has been prepared in accordance with Section 8(2) of the Toxics Reduction Act and satisfies the minimum Plan Summary content requirements stipulated in Section 24 of Ontario Regulation 455/09.

### Basic Facility Information

Mandatory Basic Facility Information Item	Details
<b>Substance Name and Chemical Abstracts Service (CAS) Registry Number, if any</b>	This is a Master Document which provides supporting information for Toxic Substance Reduction Plans for the following Metal Substance: Selenium, [Per O.Reg. 455/09; "no single CAS numbers apply to this substances"]
<b>NPRI and O. Reg. 127/01 Identification Numbers</b>	NPRI ID: 5850
<b>The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different</b>	Lafarge Canada Inc. – Bath Cement Plant 6501 33 Highway Bath, ON K0H1G0 Canada
<b>The number of full time employee equivalents at the facility</b>	104
<b>The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code</b>	32 - Manufacturing 3273 – Cement and Concrete Product Manufacturing 327210 – Cement Manufacturing
<b>Public contact</b>	Brenda McPhee Environment & Systems Manager, Cement Division
<b>Technical contact and person who is responsible for coordinating plan preparation</b>	Brenda McPhee Environmental & Systems Manager, Cement Division
<b>The person who prepared the plan</b>	Tracy Hodges Air Quality Specialist tracycanney@gmail.com
<b>Highest Ranking employee at the facility who has management responsibilities relating to the facility and who is responsible for making certification</b>	Richard Sebastianelli, Plant Manager, Bath Cement Plant
<b>The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum</b>	Easting: 355882 Northing: 4891935 Datum: 1983
<b>Parent Company Information</b>	Lafarge Canada Inc. 334 Avro Avenue Point Claire, QC H9R 5W5

## **List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility**

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

- Selenium\*

\*Per O.Reg. 455/09, “no single CAS numbers apply to this substance”

### **Statement of Intent**

As required by s.4(1) of the TRA, a Plan must include either a statement of the Facility’s intent to reduce the use and/or creation of the Toxic Substance at the Facility, or the reasons for not including this statement.

A statement of the Facility’s intent to reduce its “use” of the Toxic Substance has not been included as a part of this Plan. The Toxic Substance is never created within the Facility’s process and therefore no statement with respect to intent to reduce creation of the Toxic Substance is required.

The Facility is captured by the requirements of the TRA pertaining to the Toxic Substance since the Facility meets the TRA’s definition of target facilities “with North American Industry Classification System (NAICS) codes commencing with the digits 31-33 (manufacturing)” and also triggered the Toxic Substance’s TRA reporting threshold, which was adopted by the TRA from National Pollutant Release Inventory (NPRI).

Per guidance pertaining to the Toxic Substance, reporting is triggered if the Toxic Substance was “manufactured, processed, or otherwise used” (MPO) in the previous calendar year in an amount that is greater than a specified quantity. In the Facility’s case, and following MOE guidance, processing of raw material in which the Toxic Substance occurs naturally, at typical background concentrations and as a component of a mineral, meets the definition of MPO, despite the fact that the Toxic Substance’s presence is due to natural occurrence in the raw material at trace levels and the Toxic Substance travels through the Facility’s cement manufacturing process without undergoing any significant chemical change. The Facility processes millions of tonnes of natural raw materials and even small, trace concentrations can consequently trigger the reporting threshold.

Although the Toxic Substance is present in the final product of clinker, the Toxic Substance’s “use”-based reporting threshold was exceeded due to the large quantity of raw materials that are processed at the Facility on an annual basis.

As a result, and in accordance with the TRA, this specified quantity has been reported to the MOE as a “use” of the Toxic Substance as a part of a mandatory Toxic Substance quantification, accounting and reporting exercise.

This document satisfies the additional TRA requirement of Toxic Substance Reduction Plan preparation, which requires the Facility to systematically examine opportunities to reduce its “use” of the Toxic Substance. Unlike tracking, accounting, reporting and preparation of a Toxic Substance Reduction Plan which are all requirements; the implementation toxic substance reduction options identified in the Plan (if any) is not a requirement of the TRA or O.Reg.455/09.

The Facility understands the benefits to reducing the use and creation of toxic substances, informing Ontarians about toxic substances in their community and helping Ontario position itself to compete in an increasingly green global economy. However, due to the fact that the only Facility activity which the TRA has defined as a “use” of the Toxic Substance is the manufacturing of cement, in which the Toxic Substance occurs naturally in the raw materials, there are no opportunities to reduce the “use” of the Toxic Substance aside from reducing the Facility’s cement production.

As a part of fulfilling its requirements under the TRA and O.Reg.455/09, the Facility has prepared this Toxic Substance Reduction Plan and Plan Summary for Selenium, a naturally occurring element which is prescribed toxic substances and whose “use” cannot be reduced based on the factors presented above.

The MOE has stated that the TRA is not intended to focus on “end of pipe” emissions as they don’t necessarily have any bearing on the amount of a substance that is “used” or “created,” however the Facility would like to take this opportunity to inform the reader of the fact that the Facility currently complies with all environmental regulations that control the release and disposal of the Toxic Substance; meeting or exceeding the strict release limits imposed by these regulations for the Toxic Substance.

### **Objectives of the Toxic Substance Reduction Plan**

The Objectives of the Plan are as follows:

- Provide support for the Facility’s position with respect to the Statement of Intent by providing an explanation of how the TRA’s definition of the word “use”, as applied to the Toxic Substance, renders it impossible to reduce the “use” of the Toxic Substance without reducing Facility production;
- Provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a “use” of the Toxic Substance; and
- Document how the Facility has fulfilled the applicable requirements under the TRA and O. Reg. 455/09 with respect to the Toxic Substance.

### **Description of Why the Toxic Substance Is Used or Created**

As stated elsewhere in this Plan, the Facility activity that the MOE has defined for the purpose of the TRA as a “use” of the Toxic Substance is the handling and processing of quarried materials in which the Toxic Substance occurs naturally, at typical background concentrations in the region and as a component of a mineral. Since the Toxic Substance occurs naturally in trace levels in the limestone quarried at the site, and the Facility is a quarry extraction and cement manufacturing facility, it is impossible to reduce this “use” of the Toxic Substance without reducing the Facility’s cement production. The Toxic Substance simply travels through the Facility process along with all other materials without undergoing any significant chemical change. It is impossible for the Toxic Substance to be created within the Facility process, since the Toxic Substance is reportable under the TRA and O.Reg.455/09 as an elemental mass contribution to the material in which it may be a component.

### **Rationale for Not Implementing Toxic Substance Reduction Options**

As required by s.18(4) of O. Reg. 455/09 (as amended by s.9(3) of O. Reg. 214/11), a Plan must contain an explanation of why no toxic substance reduction options will be implemented.

Facility personnel have considered each of the seven categories for toxic substance reduction options, and, in light of the information provided in the Statement of Intent section of this Plan, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories.

Therefore the rationale for not implementing toxic substance reduction options is that no toxic substance reduction options could be identified.

Many of the listed toxic substances found in the cement manufacturing process and inherent in the primary raw material and fuels used, are subject to similar behaviour, fate and reduction options. All of the listed toxic substances are found in the raw material mixture that enters the kiln, or present in the fuel that is introduced into the kiln during the clinker production stage. Many of these listed toxic substances make their way through the entire process and are ultimately bound into the final product, cement. Any attempt to mitigate the use or creation of one listed toxic substance will influence other listed toxic substances.

For the Facility, there are a small number of TSR Options that can significantly influence the use, creation and emission of listed toxic substances, and these are associated with the use of low carbon fuels and alternative raw materials. Lafarge is focused on exploring these alternatives through its Cement 2020 Initiative. At this point in time Lafarge cannot commit to their implementation as this depends on the issuance of Environmental Compliance Approvals which are not under its legal ability to execute. Details of the work to date can be found at the website [www.cement2020.com](http://www.cement2020.com).

In addition, Lafarge currently uses a number of raw materials that are waste products of other industries (e.g.; slag, fly ash), which is a beneficial re-use of these products instead of sending to landfill. The only substitution for these products would be virgin raw materials, which may not necessarily result in a reduction of the level of toxics reported. Based on the net environmental benefit of waste recycling, Lafarge has not explored this option further.

### **Statement that the Plan Summary Accurately Reflects the Current Version of the Plan**

As required by s.24(1)8 of O. Reg. 455/09 this Plan Summary accurately reflects the current version of the Plan.

### **Planner License Number**

As required by s.18(2) of O. Reg. 455/09 (as amended by s. 9(2) of O. Reg. 214/11), the Licensed Toxic Substance Reduction Planner responsible for providing Planner Recommendations on and certification of this Plan is as follows:

Connie Lum, C.Sc., EP  
Principal Environmental Consultant  
Envirolum Consulting  
Toxic Substance Reduction Planner License Number TSRP089

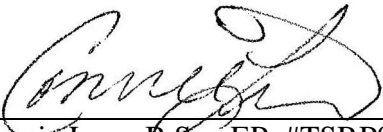
### **Copies of the Certification**

Certification statement is provided in the following page.

## CERTIFICATION BY LICENSED PLANNER

As of December 16, 2015, I, Connie Lum certify that I am familiar with the processes at Lafarge North America – Bath Cement Plant that use the toxic substance 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 toxic substance reduction plan referred to below for the toxic substance and that the plan complies with the Act and the Ontario Regulation 455/09 (General) made under that Act.

*Selenium, Plan Prepared December 15, 2015*



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Connie Lum, B.Sc., EP, #TSRP0089  
*Principal Environmental Consultant*  
Envirolum Consulting  
Connielum.ehs@gmail.com

**Toxic Substance Reduction Plans Certification by Highest Ranking Employee**

As required by s.4(2) of the Toxics Reduction Act (TRA), Toxic Substance Reduction Plans must contain a certification, signed by the highest ranking employee at the Facility who has management responsibilities relating to the Facility.

The following Certification Statement is being made under s.19(2) of Ontario Regulation (O.Reg.) 455/09 (as amended by s.11 of O.Reg.214/11) and satisfies the requirements of s.4(2) of the TRA for the Toxic Substance Plans that are assembled within this single document as of the date of this Certification Statement. Furthermore, the following Certification Statement is limited to the respective versions of the Plan which is dated as indicated in the Certification Statement:

As of December 22, 2015, I, Richard Sebastianelli, certify that I have read the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the plans are factually accurate and comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under that Act.

- Selenium Version 1.0 (dated, December 15, 2015)



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Richard Sebastianelli  
Plant Manager  
Bath Cement Plant  
Lafarge Canada Inc.