

## Summary

Chemical Name and CAS#:  
Nitrogen oxides (expressed as NO<sub>2</sub>) (11104-93-1)  
Carbon monoxide (630-08-0)

NPRI Identification Number: 635  
O Reg. 127/01 Number: 10100  
Number of Full-time Employees: 200  
Company Name:  
Company Address:  
Number of employees:  
Two Digit NAICS Code: 32  
Four Digit NAICS Code: 3279

Public Contact:

UTM Spatial Coordinates (NAD83):

Latitude: 43.414317°

Longitude: -79.805937°

Datum:

UTM: 17  
E596677  
N4807518

Statement of Intent: There are 11 listed substances that require a Toxic Substance Reduction Plan at Hanson Brick Ltd. They are listed below in groups that are results of common pathway through the manufacturing operations. Each substance will be accounted for in its group. This plan addresses Group 4. All information in this report referring to Nitrous oxides (NO) is also referring to Carbon Monoxide (CO). These compounds are present in 2 processes. The compounds are accounted for separately.

### Group 1

Calcium fluoride (7789-75-5)  
Hydrochloric acid (7647-01-0)  
Hydrogen fluoride (7664-39-3)  
Sulphur dioxide (7446-09-5)

### Group 2

Manganese (and its compounds) (NA - 09)  
Zinc (and its compounds) (NA - 14)

### Group 3

PM - Total Particulate Matter	(NA - M08)
PM10 - Particulate Matter <= 10 Microns	(NA - M09)
PM2.5 - Particulate Matter <= 2.5 Microns	(NA - M10)

#### Group 4

Nitrogen oxides (expressed as NO <sub>2</sub> )	(11104-93-1)
Carbon monoxide	(630-08-0)

Reason for Use: NO<sub>x</sub> and CO are created in the burning of natural gas

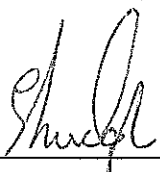
Target: Hanson Brick Ltd. will explore opportunities to reduce NO<sub>x</sub> and CO.

Objective: Hanson Brick Ltd. produces fired clay brick primarily for the Greater Toronto Area using locally sourced raw materials. Nitrous Oxides and Carbon Monoxide are created in the manufacturing process. Hanson Brick Ltd. will continue to control the emissions on a unit production basis and examine means to reduce emissions in the future.

#### Certification: Highest Ranking Employee

As of December 30, 2013, I, Shane Egan, 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 that Act.

Nitrogen Oxides	(11104-93-1)
Carbon Monoxide	(630-08-0)



Shane Egan  
Title VP Operations  
Hanson Brick Ltd.

Date

9 July 2014

**Certification: Planner**

As of December 30, 2013, I, John Hewitt certify that I am familiar with the processes at Hanson Brick Ltd that use or create 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 plan dated [insert version date] and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Nitrogen Oxides	(11104-93-1)
Carbon Monoxide	(630-08-0)

  
\_\_\_\_\_  
John Hewitt  
Projects & Environmental Manager  
Hanson Brick Ltd  
Planner License No.: TSRP1037  
jack.hewitt@hanson.com

July 16 2014  
Date

This summary accurately reflects the Toxics Reduction Plan for NOx and CO dated December 31, 2013.

## **Options to Be Implemented**

None at present.

The creation of NO<sub>x</sub> and CO is a by-product of the combustion of natural gas.

Natural gas usage is directly related to the size, weight and properties of the fired brick.

These characteristics of the product have been optimized to minimize the use of natural gas. These properties are set by standards in the Building Codes and CSA. They could be changed but the pace is decades long.

Current technology does not reduce these emissions in brick kilns where the product is dependent on high combustion temperatures combined with very high velocities