



Toxics Reduction Plan Summaries

Required by
Ontario Toxic Reduction Act (2009)
Ontario Regulation 455/09

Prepared for:
Brampton Brick Limited
225 Wanless Drive
Brampton ON, L7A 1E9

Prepared by:
Stantec Consulting Ltd.
300 – 675 Cochrane Drive west
Tower
Markham ON, L3R 0B8

Table of Contents

Facility Information	3
Owner of the Facility Information	3
Operator of the Facility Information	3
Highest Ranking Employee	3
Parent Company Information	3
Toxic Substances for Which Facility Must Prepare:	4
Plan Contacts	4
Statement of Intent	5
Objectives	5
Carbon Monoxide – CAS 630-08-0	6
Hydrochloric Acid – CAS 7647-01-0	6
Nitrogen Oxides - CAS 11104-93-1	7
Sulfur Dioxide – CAS7446-09-5	7
Particulate Matter (Total)	8
Particulate Matter (less than 10µm)	8
Particulate Matter (less than 2.5µm)	9
Plan Certifications	10
Carbon Monoxide	10
Hydrochloric Acid	10
Nitrogen Oxides	11
Sulfur Dioxide	11
Particulate Matter (Total)	12
Particulate Matter (less than 10µm)	12
Particulate Matter (less than 2.5µm)	13

Facility Information

Company Name:	Brampton Brick Limited
Facility Name	Brampton Brick
NPRI Identification No.	7302
Ontario MOE Identification No.	6957
NAICS 2 Code:	31-33 Manufacturing
NAICS 4 Code:	3271 Clay Product and Refractory Manufacturing
NAICS 6 Code:	327120
Number of Full Time Employees:	44
UTM Spatial Coordinates (NAD83):	Latitude: 43.7211 ; Longitude: -79.8164
Datum:	1983

Owner of the Facility Information

Name:	Brampton Brick Limited 225 Wanless Drive, Brampton ON L7A 1E9
-------	---

Operator of the Facility Information

Name:	Brampton Brick Limited 225 Wanless Drive, Brampton ON L7A 1E9
-------	---

Highest Ranking Employee

Name:	Brad Cobbledick
Title:	Vice President of Technical Services
Address:	Brampton Brick Limited 225 Wanless Drive, Brampton ON L7A 1E9
Phone No.	(905) 840-1011
Fax No.	(905) 840-6126
Email:	bcobbledick@bramptonbrick.com

Parent Company Information

Legal Name of Parent Company:	Brampton Brick Limited
Address of Parent Company:	225 Wanless Drive, Brampton ON L7A 1E9
Percentage of Facility Owned by Company:	100%
CCRA Business No.	100621424

Toxic Substances for Which Facility Must Prepare:

Substances:	Carbon Monoxide – CAS 630-08-0 Hydrogen Chlorides – CAS 7647-01-0 Nitrogen Oxides - CAS 11104-93-1 Sulfur Dioxide – CAS7446-09-5 Particulate Matter (Total) Particulate Matter (less than 10µm) Particulate Matter (less than 2.5µm)
-------------	--

Plan Contacts

Person Coordinating the Preparation of the Plan	Lauren Mulkerns Environmental Manager 225 Wanless Drive, Brampton ON, L7A 1E9 Phone: (905) 840-1011 Fax: (905) 840-6126 lmulkerns@bramptonbrick.com
Person Who Prepared the Plan	Boris Chen Project Manager, Stantec 300 – 675 Cochrane Drive West Tower, Markham ON, L3R 0B8 Phone: (905) 415-6351 Fax: (905) 474-9889 Boris.chen@stantec.com
Public Contact	Brad Cobbledick Vice President of Technical Services 225 Wanless Drive, Brampton ON, L7A 1E9 Phone: (905) 840-1011 Fax: (905) 840-6126 bcobbledick@bramptonbrick.com
Technical Contact	Lauren Mulkerns Environmental Manager 225 Wanless Drive, Brampton ON, L7A 1E9 Phone: (905) 840-1011 Fax: (905) 840-6126 lmulkerns@bramptonbrick.com

Statement of Intent

Based on the nature of the facility operation, no toxics reduction options have been identified as feasible for the facility. However, Brampton Brick Ltd. is committed to playing a leadership role in protecting the environment. The company will continue to implement their Quality Management system as part of their standard operating practices, and to conduct testing to evaluate technically and economically feasible options to reduce the creation of the subject toxic substance. Employees in the company are encouraged to participate in all types of toxics use reduction activities.

Objectives

Brampton Brick has taken the following proactive initiatives to reduce the creation and release of toxic substances:

- **Product reformulation:** The facility has conducted tests to use up to 5% of calcine material to reduce the brick mass and the amount of shale used per brick. The facility will perform additional trials to determine the feasibility of using the material to replace shale in the brick.
- **Spill and leak prevention:** The facility has implemented Kiln Leak Testing Procedures to prevent the release and emissions of the toxic substance during brick production.
- **Inventory management and operating practices:** The facility applied emission control means and best management practice plans to minimize the generation of dust and prevent potential emissions and leaks of particulate matter during the manufacturing processes.

Toxics use reduction will be an ongoing effort for Brampton Brick, and the company will continue to test technological advancements to ensure that reduction options that are both technologically and financially viable are implemented at the facility.

The company will continue their quality management system and kiln leak testing procedures, further improve their inventory management system and operation practices to prevent the release and emissions of the toxic substance during brick production.

Carbon Monoxide – CAS 630-08-0

Substance Activity	2017 (Current Year)	2016 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0	0	-	-	-	
Created (tonnes)	220.2	205.4	7.19%	14.76	Increase in Production	No technological or financially feasible options identified.
Released to Air (tonnes)	220.2	205.4	7.19%	14.76		
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Hydrochloric Acid – CAS 7647-01-0

Substance Activity	2017 (Current Year)	2016 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0.0817	0.0584	39.90%	0.0233	Increase in Production	No technological or financially feasible options identified.
Created (tonnes)	86.45	62.17	39.06%	24.28		
Released to Air (tonnes)	29.62	28.76	2.99%	0.861	Other	
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Nitrogen Oxides - CAS 11104-93-1

Substance Activity	2017 (Current Year)	2016 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0	0	-	-	-	
Created (tonnes)	65.58	61.19	7.17%	4.388	Increase in Production	No technological or financially feasible options identified.
Released to Air (tonnes)	65.58	61.19	7.17%	4.388		
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Sulfur Dioxide – CAS7446-09-5

Substance Activity	2017 (Current Year)	2016 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0	0	-	-	-	
Created (tonnes)	97.58	91.03	7.19%	6.546	Increase in Production	No technological or financially feasible options identified.
Released to Air (tonnes)	97.58	91.03	7.19%	6.546		
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Particulate Matter (Total)

Substance Activity	2017 (Current Year)	2016 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0	0	-	-	-	
Created (tonnes)	55.31	52.37	5.60%	2.933	Quantities approximately the same	No technological or financially feasible options identified.
Released to Air (tonnes)	55.31	52.37	5.60%	2.933		
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Particulate Matter (less than 10µm)

Substance Activity	2017 (Current Year)	2016 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0	0	-	-	-	
Created (tonnes)	38.43	36.47	5.36%	1.956	Quantities approximately the same	No technological or financially feasible options identified.
Released to Air (tonnes)	38.43	36.47	5.36%	1.956		
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Particulate Matter (less than 2.5µm)

Substance Activity	2016 (Current Year)	2015 (Previous Year)	Change from Previous Year	Change from Previous Year (tonnes)	Reason for Change	Reduction Options
Use	0	0	-	-	-	
Created (tonnes)	19.50	18.50	5.39%	0.997	Quantities approximately the same	No technological or financially feasible options identified.
Released to Air (tonnes)	19.50	18.50	5.39%	0.997		
Released to Water	0	0	-	-	-	
Disposed onsite	0	0	-	-	-	
Disposed offsite	0	0	-	-	-	
Transferred for Recycling	0	0	-	-	-	
Contained in product that leaves the facility	0	0	-	-	-	
Transformed to other substances	0	0	-	-	-	
Destroyed at the facility	0	0	-	-	-	

Plan Certifications

Carbon Monoxide

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 16, 2013, I, Brad Cobbleidick, 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.

Toxic Substance: Carbon monoxide (CO) (CAS 630-08-0)



December 16, 2013

Brad Cobbleidick
 Vice President of Technical Services
 225 Wanless Drive, Brampton, ON L7A1E9
 (905) 840-1011
 (905) 840-6126
 bcobbleidick@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 16, 2013, I, Ruouou (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 December 16, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: Carbon monoxide (CO) (CAS 630-08-0)



December 16, 2013

Ruouou (Boris) Chen (License No. TSRP0239)
 Project Manager, Environmental Services
 Stantec
 300 - 675 Cochrane Drive West Tower
 Markham ON L3R 0B8
 Phone: (905) 415-6351
 boris.chen@stantec.com

Date

Hydrochloric Acid

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 4, 2012, I, Brad Cobbleidick, 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.

Toxic Substance: Hydrogen chloride (HCl)



Dec 5, 2012

Brad Cobbleidick
 Technical Director
 225 Wanless Drive, Brampton, ON L7A1E9
 (905) 840-1011
 (905) 840-6126
 bcobbleidick@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 4, 2012, I, Ruouou (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 October 1, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: Hydrogen chloride (HCl)



Dec 4, 2012

Ruouou (Boris) Chen (License No. TSRP0239)
 Project Manager, Environmental Sciences
 Stantec
 300 - 675 Cochrane Drive West Tower
 Markham ON L3R 0B8
 Phone: (905) 415-6351
 boris.chen@stantec.com

Date

Nitrogen Oxides

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 16, 2013, I, Brad Cobblestick, 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.

Toxic Substance: Nitrogen Oxides (NOx) (CAS 11104-93-1)



December 16, 2013

Brad Cobblestick
Vice President of Technical Services
225 Wanless Drive, Brampton, ON L7A1E9
(905) 840-1011
(905) 840-6126
bcobblestick@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 16, 2013, I, Ruouou (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 December 16, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: Nitrogen Oxides (NOx) (CAS 11104-93-1)



December 16, 2013

Ruouou (Boris) Chen (License No. TSRP0239)
Project Manager, Environmental Services
Stantec
390 - 675 Cochrane Drive West Tower
Markham ON L3R 0B8
Phone: (905) 415-6351
boris.chen@stantec.com

Date

Sulfur Dioxide

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 16, 2013, I, Brad Cobblestick, 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.

Toxic Substance: Sulfur Dioxide (SO₂) (CAS 7446-09-5)



December 16, 2013

Brad Cobblestick
Vice President of Technical Services
225 Wanless Drive, Brampton, ON L7A1E9
(905) 840-1011
(905) 840-6126
bcobblestick@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 16, 2013, I, Ruouou (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 December 16, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: Sulfur Dioxide (SO₂) (CAS 7446-09-5)



December 16, 2013

Ruouou (Boris) Chen (License No. TSRP0239)
Project Manager, Environmental Services
Stantec
390 - 675 Cochrane Drive West Tower
Markham ON L3R 0B8
Phone: (905) 415-6351
boris.chen@stantec.com

Date

Particulate Matter (Total)

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 16, 2013, I, Brad Cobbleddick, 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.

Toxic Substance: Particulate matter (PM) (CAS N/A)



December 16, 2013

Brad Cobbleddick
Vice President of Technical Services
225 Wanless Drive, Brampton, ON L7A1E9
(905) 840-1011
(905) 840-6126
bcobbleddick@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 16, 2013, I, Ruocou (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 December 16, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: Particulate matter (PM) (CAS N/A)



December 16, 2013

Ruocou (Boris) Chen (License No. TSRP0239)
Project Manager, Environmental Services
Stantec
300 - 675 Cochrane Drive West Tower
Markham ON L3R 0B8
Phone: (905) 415-6351
boris.chen@stantec.com

Date

Particulate Matter (less than 10µm)

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 16, 2013, I, Brad Cobbleddick, 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.

Toxic Substance: Particulate matter with less than 10 µm in diameter (PM₁₀)



December 16, 2013

Brad Cobbleddick
Vice President of Technical Services
225 Wanless Drive, Brampton, ON L7A1E9
(905) 840-1011
(905) 840-6126
bcobbleddick@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 16, 2013, I, Ruocou (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 December 16, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: Particulate matter with less than 10 µm in diameter (PM₁₀)



December 16, 2013

Ruocou (Boris) Chen (License No. TSRP0239)
Project Manager, Environmental Services
Stantec
300 - 675 Cochrane Drive West Tower
Markham ON L3R 0B8
Phone: (905) 415-6351
boris.chen@stantec.com

Date

Particulate Matter (less than 2.5µm)

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 16, 2013, I, Brad Cobbleclik, 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 453/09 (General) made under that Act.

Toxic Substance: Particulate matter with less than 2.5 µm in diameter (PM_{2.5})



December 16, 2013

Brad Cobbleclik
Vice President of Technical Services
225 Wanless Drive, Brampton, ON L7A1E9
(905) 840-1011
(905) 840-6126
bcobbleclik@bramptonbrick.com

Date

CERTIFICATION BY LICENSED PLANNER

As of December 16, 2013, I, Ruouu (Boris) Chen certify that I am familiar with the processes at Brampton Brick Limited 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 December 16, 2013 and that the plan complies with that Act and Ontario Regulation 453/09 (General) made under that Act.

Toxic Substance: Particulate matter with less than 2.5 µm in diameter (PM_{2.5})



December 16, 2013

Ruouu (Boris) Chen (License No. TSRP0239)
Project Manager, Environmental Services
Stantec
300 - 675 Cochrane Drive West Tower
Markham ON L3R 0B8
Phone: (905) 418-6351
boris.chen@stantec.com

Date