



Canadian Asphalt Industries Inc.

Toxic Reduction Summary Report : 11104-93-1 Nitrogen Monoxides (Express as NO₂, Nitrogen Dioxide)

Report Prepared by: Albert Chang, P.Eng, MBA (TRA License# TSRP0230)

Issued May 30, 2019

Toxic Substance Reduction Plan Summary

Substance Name and CAS # : 11104-93-1 Nitrogen Monoxides (Express as NO2, Nitrogen Dioxide)

Basic Facility Information:

Canadian Asphalt Industries Inc.

400 Eastport Blvd

Hamilton, Ontario, L8H 7S4

Canada

Latitude: 43.27570

Longitude: 79.78340

UTM Zone: 17

UTM Easting: 598719

UTM Northing: 4792150

The National Pollutant Release Inventory (NPRI) ID number: 11343

Ontario Regulation 127/01 ID number: NA

NAICS Code: 339990

Facility Employees: 31

Public Contact:

Guy Belanger, Plant Manager, 905 549 4561 Ext 224

Peter Hoorn, Production Manager, 905 549 4561 Ext 219

Albert Chang, Plant Engineer, 905 549 4561 Ext 207

Substance for which other Plans have been prepared

7446-09-5 Sulfur Dioxide

Statement of Intent

Canadian Asphalt Industries is committed to environmental improvement. Whenever feasible, Canadian Asphalt Industries, will reduce, reuse and eliminate the reference substance in this report with full compliance of Federal and Provincial regulations.

Reduction Objective

Canadian Asphalt Industries would like to reduce the creation of Nitrogen Monoxide at the facility by lowering the incinerator temperature from 1600 oF to 1400 oF with full compliance of Federal and Provincial regulations.

Target for Reduction

If the fume incinerator temperature is reduced from 1600 oF to 1400 oF. We can expect about 2.16 ton of Nitrogen Dioxide reduction.

Description for the Substance

Nitric oxide or Nitrogen Monoxide NO is a by-product of combustion of substances in the air. When exposed to oxygen or air, nitric oxide is rapidly oxidized in air to nitrogen dioxide. Nitrogen Monoxide is created in Canadian Asphalt Industries's process of tank fumes incineration to reduce offensive odor.

Toxic Substance Reduction Options to be Implemented

The following option has been identified for implementation to reduce the use and release of the above reference substance:

Equipment and Process modifications:

Reduce the fume incinerator temperature from 1600 oF to 1400 oF. The reduction of natural gas usage and lower temperature will form less NO_x in the emission.

Plan Summary

We did carry out the trial run to see if temperature reduction on incinerator causes adverse effect on process fume incineration. Below is summary of the trial run:

1. No black or brown smoke observed during the 1400 oF fume incineration trial
2. Natural Gas usage reduction was observed.
3. Based on step 1 and 2, NO_x reduction will definitely occur when incineration temperature was lowered from 1600 oF to 1400 oF.
4. Our Environmental Certificate of Approval (ECA) required us to incinerate tank fumes at 1600 oF. The ministry of environment may or may not approve our ECA amendment. Also the time for ECA amendment is usually two years or longer.
5. Due to requirement of ECA, we have decided not to proceed with incinerator temperature reduction from 1600 oF to 1400 oF for the time being.

This Plan Summary accurately reflects the content of the toxic substance reduction plan for 11104-93-1 Nitrogen Monoxides (Express as NO₂, Nitrogen Dioxide).

Plan Certification

I, Guy Belanger, certify that I have read the record created for the purposes of section 9 of Ontario Regulation 455/09 made under the Toxics Reduction Act, 2009 in respect of the use and creation of the toxic substances referred to below at Canadian Asphalt Industries Inc. and am familiar with their contents and to my knowledge they are factually accurate and complies with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 made under that Act.

11104-93-1 Nitrogen Monoxides (Express as NO₂, Nitrogen Dioxide)

Canadian Asphalt Industries, Plant Manager GUY BELANGER

Date MAY 30/2019

As of May 30, 2019, I, Albert C. H. Chang certify that I am familiar with the processes at Canadian Asphalt Industries that use or create the toxic substance referred to above, 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.

Albert C.H. Chang

Date May 30, 2019

Albert C. H. Chang
TSRP0230 Toxic Substance Reduction Planner