OxyVinyls Canada Co.
Niagara PVC Plant
8800 Thorold Townline Rd.
Thorold, ON L2E 6V9

Toxics Reduction Plan Summary

for

Dioxins and Furans (CAS #'s)

Dioxins: 1746-01-6, 40321-76-4, 39227-28-6, 19408-74-3, 57653-85-7, 35822-46-9, 3268-87-9
Furans: 51207-31-9, 57117-31-4, 57117-41-6, 70648-26-9, 72918-21-9, 57117-44-9, 60851-34-5, 67562-39-4, 55673-89-7, 39001-02-0

per

O.Reg. 455/09

December 29, 2012

Facility Information (per O.Reg.455/09, s.18. (2))

1. Substances:
   The following Phase 1 substances are included in this Plan Summary:

Name	CAS Registry No.
Dioxins & Furans	-

2. NPRI Identification No: 5762

3. MOE Identification No per O.Reg. 127/01: 5294

4. Legal Name and Address:

   Street:
   OxyVinyls Canada Co.
   8800 Thorold Townline Rd.
   Thorold, ON L2E 6S5

   Mailing:
   OxyVinyls Canada Co.
   P.O.Box 1027
   Niagara Falls, ON L2E 6V9

5. Full Time Employees: 91

6. NAICS Code: 325210

7. Company Contact:
   Don Davidson - Plant Manager
   Tel: 905-374-5601

8. Technical Contact:
   Ron Morettin - HESS Team Leader
   Tel: 905-374-5669

9. Plan Coordinator: Ron Morettin

10. Plan Preparation: Ron Morettin

11. Highest Ranking Employee: Don Davidson

12. Addresses of Contacts: Same as 4.

13. Plant Location (UTM):

Zone:	17T
Easting:	648800
Northing:	4767600
Latitude:	42.98100
Longitude:	-79.26660

14. Canadian Parent Company:
   Occidental Canada Holdings Ltd.
   Charles S. Reagan
   Suite 900
   1959 Upper Water Street
   Halifax, Nova Scotia B3J 2X2

Statement of Intent

Oxy Vinyls Canada Co. is required under O.Reg. 455/09 to develop Toxic Reduction Plans for Phase 1 substances by December 31, 2012.

Oxy Vinyls Canada Co. is committed to reducing the use, creation, or transfer of toxic substances in its processes where feasible and economically viable.

Objective

The objective of this Toxic Reduction Plan is to identify the toxic substances used, created, or transferred, how they are used, created, or transferred, where they are used, created, or transferred, and how their use, creation, or transfer can be reduced or eliminated.

Description of Substance Use or Creation

Dioxins and furans are created in the incinerator from the destruction of vinyl chloride.

Contents of Plan Summary Reflects Plan

This Plan Summary for dioxins and furans accurately reflects the Toxics Reduction Plan dated December 19, 2012.

Options To Be Implemented

Material or Feedstock Substitution - No option identified
There is no material feedstock substitution option as this substance is created as a result of the incineration of gases from the VCM recovery process. VCM is the raw material used to make the PVC product at the facility and thus material or feedstock substitution is not relevant.

Product Design or Reformulation - No option identified
Dioxins and Furans cannot be designed or reformulated.

Equipment or Process Modifications - One option identified
The incinerator is a backup environmental system which is only used when the Vent Gas Absorber is out of service. Elimination or minimization of the need to incinerate vinyl chloride will eliminate or reduce the creation of dioxins and furans. Elimination of the incinerator would require an alternate backup system such as another VGA system.

Spill and Leak Prevention - No option identified
There is no spillage or leakage of dioxins and furans.

On-site Reuse or Recycling - No option identified
Dioxins and furans cannot be reused or recycled, nor can the streams that contain the dioxins and furans.

Improved Inventory Management or Purchasing Techniques - No option identified
This is not applicable as this toxic substance is created.

Training or Improved Operating Practices - No option identified
All operating personnel in the plant are fully trained to operate the Vent Gas Absorber and incinerator systems and are required to maintain up to date training by periodic recertification on the procedures. As operating practices are improved, procedures are updated and the operating personnel are required to train and compete certification on the new procedures. Operation of the incinerator is kept to a minimum and vinyl chloride is incinerated only when absolutely necessary. Operating control limits for the incinerator are conservatively set so that vinyl chloride cannot be burned if the incinerator temperature is not at the optimum for minimizing the formation of dioxins and furans.

Feasibility of Reduction Options

Equipment or Process Modifications

Vent Gas Absorber downtime is being minimized by a comprehensive mechanical integrity inspection and preventative maintenance system. Unplanned system downtime is very rare and the equipment is maintained at peak performance.

When the incinerator is used, burning of vinyl chloride is minimized as much as possible by restricting inert gas flow rates to the incinerator and only burning inert gases when the recovery process system pressure becomes too high and interferes with the recovery process. Operating temperatures are maintained at above or below the 400 to 1000 ^{0}F range that is conducive to dioxins and furans creation.

Elimination of the incinerator would require the installation of another Vent Gas Absorber system. The startup time necessary for the VGA to stabilize before being put into service can be 1 to 4 days, which would result in substantial production losses.

Economic Feasibility of Reduction Options

Equipment or Process Modifications

Elimination of the incinerator by installing another Vent Gas Absorber system would cost more than $2,000,000. Also the operating and maintenance cost of the backup VGA would cost $100,000 or more per year. This option would eliminate all dioxins and furans produced at the facility. The operating cost of the incinerator is approximately $9,600 per hour or $106,000 per year. This alternative is neither logistically nor economically feasible based on the small amount of D & F's being produced and the excessive cost of this option.

Certification by Highest Ranking Employee

As of December 20, 2012, I, Donald Davidson, certify that I have read the toxic substance reduction plan for dioxins and furans 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.

D. Davidson

Donald Davidson, Plant Manager
Oxy Vinyls Canada Co.

12/20/2012
Date

Toxic Substance Reduction Planner

As of 12/21/2012, I, Scott Manser, certify that I am familiar with the processes at Oxy Vinyl Canada Co.'s Niagara Falls facility that use or create the toxic substances 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 19, 2012, and that the plan complies with that Act and ***Ontario Regulation 455/09 (General)*** made under that Act.

Dioxins and Furans CAS# -

Scott Manser
Toxic Substance Reduction Planner

TSRP0071
License Number

12/21/2012
Date