

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

Toxics Reduction Plan Summary

for

Methanol (CAS # 67-56-1)

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:

<u>Name</u>	<u>CAS Registry No.</u>
Methanol	67-56-1

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

Methanol is used as a processing aid in the production of PVC and as an alternate organic food source for the activated sludge in the waste water treatment biotreater. Approximately 99.96% of the methanol used is destroyed in the waste water treatment system.

Contents of Plan Summary Reflects Plan

This Plan Summary for methanol accurately reflects the Toxics Reduction Plan dated December 19, 2012.

Options To Be Implemented

Material or Feedstock Substitution - One option identified

There are alternate organic feedstocks available as a substitute for methanol as a food source for a waste water bio-treatment plant. These alternatives include ethanol, sugars, corn syrups, agricultural and industrial byproducts, and formulated organic mixtures (MicroC).

There are no substitutes for the processing aids used. Substitutions have already been made to processing aids which have the lowest methanol content possible (0.5 to 2.0 %). No further reductions are possible.

Product Design or Reformulation - No option identified

Methanol is a direct food source for the activated sludge in a bio-treatment plant. Methanol cannot be redesigned or reformulated.

Equipment or Process Modifications - No option identified

The biotreatment process and equipment is standard for this industry. The system is state of the art with on-line monitoring which allows for efficient control and consumption of methanol in the biotreater. The biotreater is designed for optimum efficiency including minimum methanol usage. The methanol associated with the processing aid remains unchanged as it passes through the production process and thus equipment or process modifications are not relevant.

Spill and Leak Prevention - No option identified

Methanol leakage to the environment is minimal with the only source being vapours from the conservation vent on the storage tank. The storage tank is monitored and protected from overfilling and is in a containment dyke. There is no spillage associated with the processing aids as the processing aids come in solid form which are added directly to solution makeup tanks.

On-site Reuse or Recycling - No option identified

Methanol is completely consumed by the biomass. The methanol in the processing aids is also completely used in the solution makeup tanks. Reuse and recycling does not apply to these processes.

Improved Inventory Management or Purchasing Techniques - No option identified

Current inventory management and purchasing techniques are consistent with the process requirements. Methanol is delivered on an as needed basis.

Training or Improved Operating Practices - No option identified

All Utilities operating personnel in the plant are fully trained to operate the waste water treatment system 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. Procedures and guidelines for addition of methanol to the bio-treatment system are very specific and are backed up with on-line monitoring.

Feasibility of Reduction Options

Material and Feedstock Substitution:

The existing system for feeding methanol to the biotreater is an automated outdoor liquid feed system. Any alternative food source must be readily available for delivery, easily handled and stored, a liquid that will not freeze in winter conditions, be easily added using metering equipment, and be reasonably cost competitive to methanol. Of the alternative feedstock available, only ethanol may be feasible as an alternative food source which meets the majority of these requirements.

Economic Feasibility of Reduction Options

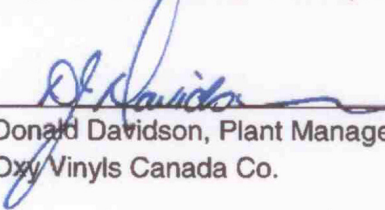
Material and Feedstock Substitution:

The most concentrated ethanol source available is denatured alcohol. Oxy Vinyls' approved methanol supplier also supplies denatured alcohol. Quoted pricing of methanol and denatured alcohol is \$0.66/kg and \$2.10/kg, respectively making denatured alcohol more than three times more expensive than methanol. This would increase plant costs by over \$100,000 per year. Also, the denatured alcohol composition contains an average of 20% methanol and could contain as much as 30% methanol.

Based on the significant increase in raw material costs and the fact that only 70 to 80% (48.9 to 55.9 tonnes) of the methanol would be reduced, this option is not economically feasible.

Certification by Highest Ranking Employee

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



Donald Davidson, Plant Manager
Oxy Vinyls Canada Co.

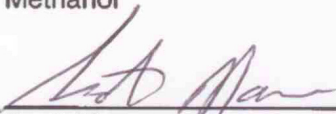
12/24/2012

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.

Methanol CAS#67-56-1



Scott Manser
Toxic Substance Reduction Planner

TSRP0071

License Number

12/21/2012

Date