

NPRI RY2021

Annual Review of Current Toxic Substance Reduction (TSR) Plans Air Products Canada Ltd., Nanticoke, ON Air Separation Facility

Toxic Substance Reduction (TSR) Plans

The Ontario MOE Toxics Reduction Act (TRA) requires applicable facilities to develop plans to reduce the use and creation of applicable toxic substances. In accordance with Ontario Regulation 455/09, TSR Plans are required to be prepared based on the manufacture, process or otherwise use (MPO) of toxic substances during the NPRI reporting year.

On 18 April 2019... the Ontario Ministry of Environment, Conservation and Parks (MECP) posted a decision to make changes to the Toxics Reduction Program and to ON Reg 455/09. In summary, the MECP decided that for the 2018 calendar year and onwards, all Ontario facilities would no longer need to:

- prepare new Toxic Substance Reduction (TSR) Plans,
- review existing plans, and
- report on new substances.

In spite of this change, Air Products does need to continue compliance with the annual NPRI reporting requirement to account for applicable toxics and continue making annual reports available to the public.

On 31 Dec 2021, the MECP is going to repeal the 2009 Ontario Toxics Reduction Act. which will suspend this annual reporting/notification requirement.

**NPRI RY 2021– No additional TSR Plans were required to be prepared.
The original Plans are described below, and remain in place.**

An NPRI RY2011 (Phase 1) Toxic Substance Reduction Plan was prepared for:

- “otherwise use” of Sulphuric Acid.

A summary of this TSR Plan was submitted to Ontario MOE in December 2012, via the Single Window Information Management (SWIM) reporting system. Information below is from that summary:

Sulphuric Acid TRS Plan - Air Products will monitor new methods and investigate ways to reduce or eliminate the use of sulphuric acid, however a reduction target is not set.

Sulphuric Acid is used as a pH neutralizer for non-contact recirculating cooling water. Whenever feasible, Air Products will eliminate, or reduce its use in full compliance with all Federal and Provincial regulations.

In preparing the TRS Plan, the contracted planner addressed regulatory prescribed options which included:

- materials or feedstock substitution,

- product design or reformulation,
- equipment or process modification,
- spill or leak prevention,
- on-site re-use,
- recycling or recovery,
- improved inventory management or purchasing techniques and
- good operator practice or training.

Based on the reviewed options, only materials or feedstock substitution was identified for potential reduction of sulphuric acid use. However, whenever feasible, Air Products may further take that option into consideration with the facility's process engineers, the facility manager, and chemical suppliers.

NPRI RY2012 (Phase 2) Toxic Substance Reduction Plans were prepared for our:

- "otherwise use" of ethylene glycol

A summary of the NPRI RY2012 ethylene glycol TSR Plan was submitted to Ontario MOE in Dec 2013, via the Single Window Information Management (SWIM) reporting system.

Ethylene glycol TRS Plan - Air Products will monitor new methods and investigate ways to reduce or eliminate the use of ethylene glycol, however a reduction target is not set.

Ethylene glycol is used as a heat transfer fluid (50% ethylene glycol/50% water) in a non-evaporative 24,0000 kg closed loop cooling system. Thus, approximately 12,000 kg of ethylene glycol is actually used.

In preparing the TRS Plan, the contracted planner addressed regulatory prescribed options which included:

- materials or feedstock substitution,
- product design or reformulation,
- equipment or process modification,
- spill or leak prevention,
- on-site re-use,
- recycling or recovery,
- improved inventory management or purchasing techniques and
- good operator practice or training.

Based on the reviewed options, only materials or feedstock substitution was identified for potential reduction of the use of ethylene glycol. A potential substitution deemed reasonable and technically feasible is propylene glycol, but economic feasibility was not considered. Air Products may take that substitute option into further consideration with the facility's process engineers, the facility manager, and chemical suppliers.