

CARPENTER CANADA CO.  
Ontario Toxic Reductions Act, 2009  
Toxic Substances Reduction Plan  
Toronto, Ontario Facility

## Basic Facility Information

Substances name and Chemical Abstracts Service (CAS) Registry number:	<p>1. Toluene diisocyanate (mixed isomers) CAS number: 26471-62-5</p> <p>2. Diphenylmethane Diisocyanate CAS number: 9016-87-9</p>
The National Pollutant Release Inventory (NPRI) identification number and the identification number assigned by the ministry under Ontario Regulation 127/01, if assigned.	NPRI ID: 0000002567
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	<p>Carpenter Canada Co. 500 Hanlan Rd. Woodbridge, ON, L4L 3P6</p>
The number of full-time employee equivalents at the facility.	125
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	<p>32: Manufacturing 3261: Plastic product manufacturing 326150: Urethane and Other Foam Product (except Polystyrene) Manufacturing</p>
Public contact	<p>Carlo Fazzalari, General Manager <a href="mailto:carlo.fazzalari@carpenter.com">carlo.fazzalari@carpenter.com</a> Phone: 905-851-6962, x:253 Fax: 905-856-0339</p>
Technical contact	<p>Anwar Ulhaq, Pouring Manager <a href="mailto:anwar.ulhaq@carpenter.com">anwar.ulhaq@carpenter.com</a> Phone: 905-851-6764, x:265 fax: 905-856-0339</p>
People who are responsible for coordinating plan preparation	Anwar Ulhaq, Pouring Manager
Highest ranking employee at the facility who has management responsibilities relating to the facility and who is responsible for making certification	Carlo Fazzalari, General Manager

The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum.	UTM X-value: (easting): 658339 UTM Y-value: (northing): 4848548
Business number assigned by the Canada Customs and Revenue Agency.	business number: 101672087
Parent company name	Carpenter Co.
Parent company address	Carpenter Co. 5016 Monument Avenue Richmond VA 23230
Parent company ownership percentage	100%
Parent company contact	Patrick Davis Corporate Environmental Manager Carpenter Co. – M.H. Reinhart Technical Center Phone: (804) 233-0606 ext. 4432 Fax: (804) 233-7741

### **Plan Summary Statement**

This Plan Summary accurately reflects the Facility’s current practices with respect to its toxic substance reduction plan for Toluene diisocyanate (mixed isomers) and Diphenylmethane Diisocyanate. The plan was prepared by Carpenter Canada Co.

### **Statement of Intent**

Carpenter Canada Co. is committed to playing a leadership role in protecting the environment. The Facility is devoted to optimizing its use of Toxic Substances using the best available technology and practices that are economically achievable at any time. This commitment is supported by the following three aspects which influence the way in which the Facility uses Toxic Substances:

- 1. Plans, Policies and Procedures that are currently in place at the Facility***
- 2. Compliance with Environmental Legislation Pertaining to Toxic Substances***
- 3. Economic Factors Associated with the Use of Toxic Substances***

## **Reduction Objectives**

The Facility's goal is to continually optimize its current practices with respect to the use of Toxic Substances using the best available technology and practices that are economically achievable at any point of time.

## **Description of Substance**

Toluene Diisocyanates mixed isomers (TDI) or Methylene Bisphenyl Isocyanate (MDI) are most commonly used in the manufacturing of the polyurethane foam.

## **Toxic Substance Reduction Options to be Implemented**

Carpenter Canada Co. has previously implemented the following reduction activities:

- Spill Prevention and Containment Plan (Leak Detection and Repair): program already established, all tanks have containment
- Engineering standards for pipe seal design etc. has been continuously improved to reduce leaks
- Incident Investigation process - continuous improvement
- Safeguarding Reviews and Pressured Equipment, Integrity Programs in place

The Facility is of the opinion that its current practices with respect to the use of Toxic Substances are optimized using the best available technology and practices that are economically achievable at this time.

With the assistance of a licensed Toxic Substance Reduction Planner, Facility personnel have carefully examined seven categories for Toxic Substance Reduction Options, and, in light of the information provided, the Facility feels that Toxic Substance Reduction Options can be identified in any of the seven toxic substance reduction categories at this time.

The following sections provide the seven categories of toxic substance reduction options along with explanations of the Facility's rationale for the conclusion that no Toxic Substance Reduction Options can be identified in each category at this time; thereby satisfying s.17(1)2 of O.Reg.455/09 and ultimately the Facility's requirements pertaining to identification of Toxic Substance Reduction Options.

### **Materials or Feedstock Substitution**

At this time TDI and MDI are considered to be the most effective substance for making the specific type polyurethane foam required by Facility customers. Based on the above information, no toxic substances reduction options have been identified under the toxic substance reduction category "Materials or Feedstock Substitution".

## **Product Design or Reformulation**

Carpenter Canada Co. reviews TDI and MDI usage regularly to ensure process optimization and changes are made if required.

The Facility feels that current usage and associated review processes in place for TDI and MDI are adequate to ensure the least amount is used in the process and therefore no Toxic Substance Reduction Options have been identified under the toxic reduction category "Product Design or Reformulation".

## **Equipment or Process Modification**

Carpenter Canada Co. reviews TDI and MDI usage regularly to ensure process optimization and changes are made if required; therefore no Toxic Substance Reduction Options have been identified under the toxic reduction category "Equipment or Process Modification".

## **Spill and Leak Prevention**

The Facility's spill and leak prevention measures which are currently in place are described below.

**Spill Plan:** The Facility has developed and maintained a Spill Prevention and Contingency Plan governed under O.Reg.224/07. This plan evaluates chemical transportation, offloading, and process activities and infrastructure from a risk perspective and has developed specific controls to manage those risks. There are also numerous response procedures for any leaks or spills inside or outside the containment areas.

**Handling and Storage:** The delivery tanker (either railcar or truck trailer) is heated with plant steam to 80 to 100°F if required. Up to 30 pounds of air pressure is then applied to the tanker to force TDI out and replace the dead air space. The TDI and MDI are then piped to storage tanks housed inside the Facility near the pouring line. At the end of the transfer, the hoses connecting the tanker truck or railcar to the rigid plant plumbing are purged by blowing any residual TDI and MDI to their respective tanks with air.

**Maintenance:** The Facility has a comprehensive Maintenance Program which includes pouring equipment, mobile equipment, fixed assets, etc. This program is supported by a SAP software package that documents, records, plans and schedules all required maintenance activities. This program specifically contains maintenance activities related to this Toxic Substance. In addition Pouring Management keeps a record of all maintenance activities pertaining to toxic substances and also ensures that all required maintenance activities are completed.

**Result of Current Spill and Leak Prevention Measures:** Upgrades were made to existing containment facilities, piping and pumping systems over the past decades during efforts to meet the standards. These changes resulted in reduced potential for spills, leaks and employee exposure.

The Facility feels that their current spill and leak prevention measures result in a robust system that is optimized using the best available technology and practices that are economically achievable at this time and therefore no Toxic Substance Reduction Options have been identified under the toxic substance reduction category "Spill and Leak Prevention".

### **On-site Reuse or Recycling**

TDI or MDI are completely consumed in the foam manufacturing process.

Since the TDI or MDI is consumed in the process, the Facility feels that no Toxic Substance Reduction Options need to be identified under the toxic substance reduction category "Onsite Reuse or Recycling".

### **Improved Inventory Management or Purchasing Techniques**

There is not an excess of TDI or MDI on site. The Facility maintains the minimal amount required to be on hand to ensure continuous operation of making foam.

The Facility feels that the current purchasing practices are in line with maintaining minimal TDI and MDI on site therefore no Toxic Substance Reduction Options need to be identified under the toxic substance reduction category "Improved Inventory or Purchasing".

### **Training or Improved Operating Practices**

Carpenter Canada Co. has developed detailed training modules relating to various production procedures. The modules are government recognized as fulfilling the foam production common core requirements.

Contained within the modules are work operation, handling and storage instructions and procedures. Operators are trained specifically on the safe practices regarding the handling of TDI and MDI. Training is provided on a scheduled basis to all required personnel including management, on site emergency responders as well as operators.

The Facility feels that their training and operating practices result in a robust system that is optimized using the best available technology and practices that are economically achievable at this time and therefore no Toxic Substance Reduction Options have been identified under the toxic substance reduction category "Training or Improved Operating Practices".

### **Identification of Technically Feasible Options**

No Toxic Substance Reduction Options have been identified under s.17(1)1 of O.Reg.455/09, however, explanations of the Facility's rationale for the conclusion that no toxic substance reduction options can be identified in each category have been provided, thereby satisfying s.17(1)2. Therefore, the requirement to provide a list of Toxic Substance Reduction Options that have been determined to be technically feasible under s.17(1)4 of O.Reg.455/09 is not required in order to satisfy s.17 of O.Reg.455/09 for purposes of this Plan.

In addition, over the past decades, activities were completed at the Facility to enhance the safe use, handling and storage of TDI and MDI. Therefore the rationale for not implementing Toxic Substance Reduction Options is that such options could be identified.

Revised September 2020