



Toxic Substance Reduction Plan Summary

Cambium Reference No.: 3806-001

2015-09-08

Prepared for: Dart Cup Ltd.



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EXECUTIVE SUMMARY

This report represents the required public summary of the 2012 Toxics Reduction Plan prepared for Dart Cup Ltd. for Pentane.



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1.0 STATEMENT OF INTENT AND OBJECTIVE OF THE PLAN

As required by the Toxics Reduction Act (TRA) and Ontario Regulation (O. Reg.) 455/09 this plan must include a statement of intent and outline of the objectives of this plan.

1.1 STATEMENT OF INTENT

Dart Cup Ltd. (Dart) is committed to playing a leading role in protecting the environment. Since pentane is brought in as part of the raw material needed to produce our finished containers it is not possible to eliminate its use. However where feasible, we will continue to put practices in place to reduce its use during the production process.

1.2 OBJECTIVE

Dart's goal is to reduce the pentane usage and associated emissions from this location if a technical and economical manner to do so exists.

Dart will continue to monitor technologies that will allow for the reduction in pentane use and/or emissions that are both economically and technically feasible..

1.3 TARGET

As targets are not required by the Act or Regulations, and Dart cannot commit to a pentane reduction without curbing production at this time, Dart does not believe it is possible to set any numerical targets pertaining to the plan objective at this time.



2.0 DESCRIPTION OF THE TOXIC SUBSTANCES FOUND AT THE FACILITY

Pentane is the only substance at the facility that requires the development of a toxics reduction plan based on the criteria set out in the Toxics reduction Act and Ontario Regulation 445/09.

- Pentane
 - Comes in as a component of the raw material used in the production process
 - No pure liquid pentane is used on site
 - Pure pentane vapors or emissions are generated as part of the production process
 - EPS, the raw material that is used for manufacturing, contains between 5.0 % – 5.75 % pentane

Note: Pentane has unique qualifications in that it is the only blowing agent used in commercially available EPS raw material as its vapor pressure and boiling point allow it to be contained within the bead until heat is applied and the with heat application it can vaporizes to form foam pockets within the polystyrene cell walls. There is no commercially available EPS that does not contain pentane as the blowing agent.



3.0 GENERAL INFORMATION

As required by the Toxics Reduction Act (the Act) (Ontario Legislative Assembly, 2009) and Regulations, the Facility information is summarized in the following sections

3.1 FACILITY INFORMATION

Dart Cup Ltd. is located at 40 Dart Road in Campbellford, Ontario.. Other required facility specific information is summarized in Table 1:

Table 1 Facility Information

Facility Name	Dart Cup Ltd.
NPRI Identification Number	0000011384
Ontario Regulation 127/01 Identification Number	N/A
Two (2) Digit NAICS Code	32
Four (4) Digit NAICS Code	3261
Six (6) Digit NAICS Code	326140 (PS foam product manufacturing)
Number of Full Time Employees	56
UTM Spatial Coordinates (NAD83) Easting	2777792
UTM Spatial Coordinates (NAD83) Northing	4909657
UTM Spatial Coordinates (NAD83) Zone	18

3.2 OWNER/OPERATOR OF THE FACILITY

The Facility owner and operator is Dart, located at the same address as the Facility.

3.3 PARENT COMPANY

There is no parent company.

3.4 TOXIC SUBSTANCES FOR WHICH THIS FACILITY MUST PREPARE A PLAN

Substance 1:

- Pentane (109-66-0)



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3.5 FACILITY CONTACTS

Name: Jeff Hamilton

Position: Plant Manager

Phone: 705-683-2877

Fax: 705-653-4334

Email: jeff.hamilton@dartcanada.ca



4.0 FACILITY PROCESS INFORMATION

The foam containers produced by Dart Cup are made from Expandable Polystyrene, EPS, beads. EPS beads consist of high molecular weight, crystal grade polystyrene impregnated with n-pentane as a blowing agent. Because pentane is part of the raw material it is used in each stage of the EPS manufacturing process.

The pentane is required to expand the plastic into a foam when heat is applied. The expansion allows us to get stronger cups with less raw material usage. The EPS container molding process cannot be done without the use of pentane since there is no known commercially available EPS raw material in North America that does not use pentane as the blowing agent. Pentane was selected by the raw material manufacturers as the best blowing agent for this application. According to the suppliers specification sheets the EPS bead that arrives onsite for use contains between 5.0 % and 6.0 % pentane.

Dart is located near the town of Campbellford and is surrounded by mixed use neighbours, including commercial, rural, and residential properties and is committed to meeting their responsibilities under the Toxics Reduction Act (Ontario Legislative Assembly, 2009). This Toxic Substance Reduction Plan (TSRP) has been prepared to meet the regulatory requirements of the Act (Ontario Legislative Assembly, 2009) and the Ontario Regulation (O. Reg.) 455/09 (Ontario Legislative Assembly, 2009).

At this time there is no known technically feasible alternative to pentane that would result in acceptable product.



5.0 PENTANE PLAN

This section outlines the planning process involving pentane, the items considered in this plan and summarizes the information provided in the Accounting report for 2012 (Dart Cup Ltd., 2015)

5.1 IDENTIFICATION AND SUMMARY OF TOXIC SUBSTANCE REDUCTION OPTIONS

After looking into the seven categories of toxic substance reduction options, 13 potential options were identified, three (3) were found to be technically feasible; however, one (1) the increasing of raw material use efficiency is already in full usage at the facility. One (1) option would require the full replacement of the equipment at the facility and usage of a new raw material, and the cost to do so does not meet the company's economic feasibility criteria. The final option, to reduce the plant throughput in general is not economically feasible as it would involve limiting production at the plant.



6.0 STATEMENT OF PLAN SUMMARY

This summary accurately reflects the current plan dated September 7 2015 and was prepared in conjunction with that plan.



7.0 PLANNER WHO PROVIDED RECOMMENDATIONS FOR IMPROVEMENT

Name: Trevor Copeland

Licensed Toxic Substance Reduction Planner: TSRP0203

Position: Project Engineer

Company: Cambium Inc.

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8.0 PLAN CERTIFICATIONS

8.1.1 HIGHEST RANKING EMPLOYEE OF DART CUP LTD. CAMPBELLFORD

I, Jeff Hamilton, certify that I have read the toxic substance reduction plans for the toxic substances referred to below 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 the Act with the exception of the regulatory reporting deadline. This report was delayed due to a misunderstanding of new regulations.

Pentane

Dart Cup Ltd.

Jeff Hamilton

Plant Manager (Highest Ranking Employee)

Oct 30/2015

Date

8.1.2 LICENSED TOXIC SUBSTANCE REDUCTION PLANNER

I, Trevor Copeland, certify that I am familiar with the processes at Dart Cup Ltd. 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 4, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under the Act, with the exception of the regulatory reporting deadline

Pentane

Cambium Inc.

Trevor Copeland, TSRP0203

Project Engineer

2015-09-08

Date



REFERENCES

Dart Cup Ltd. (2015). *Toxics Reduction Plan, Dart Cup Ltd. Campbellford.* Campbellford.

Ontario Legislative Assembly. (2009). Ontario Regulation 455/09.

Ontario Legislative Assembly. (2009). Toxics Reduction Act.