Toxic Substance Reduction Plans Summary
For
Furfuryl Alcohol (CAS# 98-00-0)
Particulate Matter 2.5 (CAS# NA – M10)
Particulate Matter 10 (CAS# NA – M09)

Canada Alloy Castings, a division of Flowserve Corporation
529 Manitou Drive
Kitchener, Ontario
N2C 1S2

November 15, 2013
Pinchin File: 82104

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1.0 BASIC FACILITY INFORMATION

Substance Information		
Substance Name		**CAS #**
Furfuryl alcohol		98-00-0
Particulate Matter 2.5 (PM2.5)		NA-M10
Particulate Matter 10 (PM10)		NA-M09
Substances for which other plans have been prepared		**CAS #**
Chromium (and its compounds)		n/a
Copper (and its compounds)		n/a
Nickel (and its compounds)		n/a
Facility Information		
Company Name	Canada Alloy Castings	
Facility Address	529 Manitou Drive, Kitchener, ON N2C 1S2	
Site Coordinates (main entrance of site)	611347.64 E, 4816078.35 N; Zone 17	
NPRI ID	151	
MOE ID	9428	
Number of Full-Time Employees in 2012	70	
2-Digit NAICS Code	31-33 - Manufacturing	
4- Digit NAICS Code	3315 - Foundries	
6-Digit NAICS Code	331514 – Steel Foundries	
Facility Contact Information		
Public Contact	Mr. Frank O'Brien SHEA Coordinator Phone #: 519-895-1161 x269 Fax #: 519-895-1169	FOBrien@flowserve.com 529 Manitou Drive Kitchener, ON N2C 1S2

2.0 STATEMENT OF INTENT

Canada Alloy Castings, a division of Flowserve Corporation (CAC) is committed to playing a leadership role in protecting the environment. Whenever feasible, we will aim to reduce the use and releases of furfuryl alcohol, as well as controlling and reducing the creation and emissions of particulate matter in compliance with all Federal and Provincial regulations.

3.0 OBJECTIVES OF THE PLAN & ANY TARGETS

CAC prides itself on technological innovation in order to produce high quality products in an environmentally responsible manner. This plan will determine the technical and economic feasibility of each identified option to determine which, if any, are viable for implementation at this time. As part of the continuous improvement practices at the facility, technical advances will be monitored for new opportunities for reduction.

4.0 DESCRIPTION OF WHY THE TOXIC SUBSTANCE IS USED OR CREATED

The manufacturing process consists of the preparation of sand molds and the production of steel castings by melting of scrap metal and new alloys in an electric induction furnace.

4.1 Furfuryl Alcohol

Furfuryl alcohol is primarily used in the production of resins for bonding foundry sand for the production of cores and molds. It is commonly used as a binder in foundries because of its beneficial characteristics. It requires no heat (energy-saving), provides high strength, high dimensional accuracy, has a fast hardening rate which offers high production efficiency, and offers low labour intensity. Furfuryl alcohol is produced from waste vegetable materials such as corn husks, and rice hulls.

4.2 Particulate Matter

Particulate matter is created as a by-product by using sand molds for metal casting. Sand molded casting is a metal casting process characterized of using sand as the mold material. Other processes within the facility which contribute to the creation of particulate matter include the induction furnace used to melt metals, the finishing processes including casting shakeout, cast grinding, sand blasting, welding, and arc cutting known as padwash.

5.0 OPTIONS TO BE IMPLEMENTED (OR STATEMENT THAT NONE ARE TO BE IMPLEMENTED)

CAC's commitment to continuous improvement has resulted in a lean and efficient manufacturing facility. The facility's continuous improvement measures, coupled with the acknowledgment that the customer provides the specifications for the raw materials processed at the facility mean that no options will be implemented at this time. Where options were identified, additional time is required to conduct further investigation to determine whether these options are technically feasible. The facility will continue to monitor areas for further reduction improvement.

6.0 ESTIMATED REDUCTIONS UNDER THE OPTIONS SELECTED (IF ANY)

Not applicable.

7.0 TIMELINES FOR ACHIEVING ESTIMATED REDUCTION (IF ANY)

Not applicable.

8.0 CONTENTS OF THIS PLAN SUMMARY REFLECTS PLAN

This Plan Summary accurately reflects the Toxic Substance Reduction Plans dated August 28, 2013 prepared for the substances listed in Section 1.0 of this Summary.

9.0 COPY OF CERTIFICATIONS

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of November 14, I, Russ Urry certify that I have read the toxic substance reduction plan 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 the Ontario Regulation 455/09 (General) made under that Act.

Furfuryl alcohol, Plan prepared August 28, 2013

Particulate Matter 2.5, Plan prepared August 28, 2013

Particulate Matter 10, Plan prepared August 28, 2013

Chromium, Plan Prepared December 20, 2012

Copper, Plan Prepared December 20, 2012

Nickel, Plan Prepared December 20, 2012

11/14/13

Russ Urry
General Manager
Canada Alloy Castings

CERTIFICATION BY LICENSED PLANNER

As of November 13, 2013, I, Connie Lum certify that I am familiar with the processes at Canada Alloy Castings that use 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 toxic substance reduction plans referred to below for the toxic substances and that the plans comply with the Act and the Ontario Regulation 455/09 (General) made under that Act.

Furfuryl alcohol, Plan prepared August 28, 2013

Particulate Matter 2.5, Plan prepared August 28, 2013

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Chromium, Plan Prepared December 20, 2012

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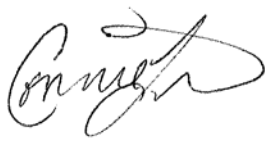

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