

# Toxics Reduction Plan Summary

(Phenol)



## North Bay Facility

281 Wallace Road  
North Bay, Ontario  
P1A 2W8

### Prepared by:

Thorsten Brost, P. Eng.  
Partner, Engineering  
November 12, 2012



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## 1. Plan Summary Statement

This plan summary accurately reflects the content of the toxic substance reduction plan for phenol prepared by Arclin Canada Inc. - North Bay, dated November 12, 2012

## 2. Statement of Intent

Phenol is currently used by the Arclin, North Bay resin facility (hereafter referred to as Arclin) as a as a feedstock material for the manufacture of various resins.

The intent of this plan is to reduce the use of phenol through further development of phenol alternatives as well as minimizing the use of phenol through improvements of process efficiencies and reduction of waste in it's various forms.

## 3. Objective

Arclin has a long history of producing various phenol containing resins in a safe, efficient and environmentally responsible fashion. Arclin will strive to further improve its environmental performance by reducing the use of phenol in its processes. This plan will determine the technical and economic feasibility of each identified reduction option to determine which are viable for implementation at this time.

Arclin has long been focused on reducing its environmental footprint. Arclin has joined seven other private companies in a National Science Foundation-funded research consortium that will focus on environmentally friendly wood-based composite materials.

Today, our environmental sustainability efforts are multidimensional:

Our green manufacturing processes incorporate many of the principles of Six Sigma® quality assurance methodology to ensure we meet, if not exceed, environmental standards and guidelines.

Our R&D and product development teams have been heavily focused on green innovation — developing products that maintain or increase performance attributes while preserving resources and lessening negative environmental impact.

Arclin's growing portfolio of E-Gen®-designated green products is a testament to our commitment to market-forward innovation.

Consider our ultra low to zero-emitting resins or FSC-certified decorative surfaces overlays, our slow release fertilizers that increase yields and conserve water and railcar toppings that protect air and valuable natural resources, Arclin is leveraging its technological expertise in bonding and surfacing science to finding new and innovative ways to address market and environmental needs.



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We're also working aggressively with a number of university R&D programs at the forefront of scientific discovery to uncover novel chemistries and new applications that net new opportunities for our customers. Smarter, greener, market-ready.

From internal processes to product development and performance, Arclin's sustainability efforts benefit our customers, downstream markets, employees and communities.

#### 4. Basic Facility Information

Substance of topic for plan: Phenol (C<sub>6</sub>H<sub>6</sub>O, CAS # 108-95-2)

Facility NPRI Identification Number: 0000001687

Facility Address: Arclin Canada Ltd.- North Bay  
281 Wallace Road  
North Bay, Ontario  
P1A 2W8

Owner Address: Arclin Canada Ltd.  
5865 McLaughlin Road, Unit 3  
Mississauga, Ontario  
L5R 1B8

Public Contact: Jason Farrow, Plant Manager  
281 Wallace Road, North Bay, ON  
(705) 474-7460 Ext. 238

Full Time Equivalent Employees: 48

Two Digit NAICS Code: 32

Four Digit NAICS Code: 3252

Six Digit NAICS Code: 325210

Ontario Regulation 127/01 ID Number: 6777

Spacial Coordinates (UTM w/ NAD83 Datum): UTM Zone 17  
UTM Easting 621199.4  
UTM Northing 5131040.5



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## 5. Other Substances Under Toxics Reduction Act

In addition to submitting a plan for the use of phenol under the Toxics Reduction Act, separate plans have been prepared for the use and creation of formaldehyde as well as the use of methanol within the Arclin facility in North Bay.

## 6. Description of Phenol Use

The Arclin facility in North Bay uses purchased phenol as a raw material for the production of resins on site. Phenol is used at the plant to manufacture resin through a chemical process where phenol is combined with urea and other chemicals in a carefully controlled environment. Phenol is a required raw material for the production of product at Arclin.

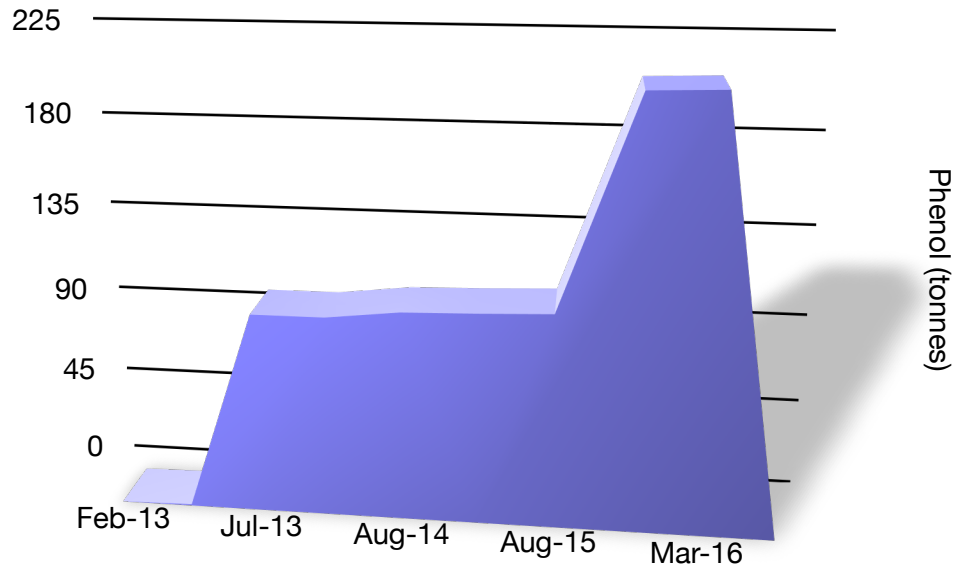
## 7. Description of Options

Through a thorough investigative process which focused on the more efficient use of phenol, the options which were identified for implementation are as outlined in the table below:

Project Name	Estimated Benefit (tonnes)	Estimated Timing
Low Phenol Resin	100	Dec-15
Phenol Inventory Management	100	Jul-13
Waste Water Collection System	4	Aug-14
Weigh Tank Measurement	1.3	Aug-15
Free Phenol Variability	1	Mar-16
Tank Level Measurement	0.95	Dec-14
Actual Weight Recording	0.65	Mar-13
Mechanical Integrity	0.1	Sep-13
Tank Level Recording	0	Feb-13
<b>Total (tonnes of phenol reduced)</b>	<b>208</b>	

The graph below indicates the magnitude and timing of the estimated benefits as outlined above:

### Estimated Phenol Use Reduction





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## 8. Certification

### 8.1. Certification by Highest Ranking Employee

As of November 15, 2012, I, Jason Farrow, certify that I have read the toxic substance reduction plan for the toxic substance 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 that Act.

Phenol

Jason Farrow  
Plant Manager  
Arclin, North Bay

### 8.2. Certification by Licensed Planner

As of November 15, 2012, I, Thorsten Brost, certify that I am familiar with the processes at Arclin, North Bay that use or create the toxic substance 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 November 12, 2012 and that the plan complies with the Act and Ontario Regulation 455/09 (General) made under that Act.

Phenol

Thorsten Brost, P. Eng. (Planner License # TSRP0225)  
Partner, Engineering  
Induspec