

# Toxic Substance Reduction Plan

A-Pinene  
B-Pinene  
D-Limonene

Plan Date: December 16, 2013

**BASIC FACILITY INFORMATION:**

<b>Name and CAS # of Substance</b>	A-Pinene B-Pinene D-Limonene	CAS# 80-56-8 CAS# 127-91-3 CAS# 5989-27-5
<b>Substances for which other plans have been prepared:</b>	Formaldehyde, Methanol, PM, PM10, PM2.5, Carbon Monoxide, Nitrogen Oxides, Acetone, Ammonia, Propane	
<b>Facility Identification and Site Address</b>		
<b>Company Name</b>	Panolam Industries Ltd.	
<b>Facility Name</b>	Huntsville Facility	
<b>Facility Address</b>	<b>Physical Address</b>	<b>Mailing Address: (if different)</b>
	<b>61 Domtar Road Huntsville, ON P1H 2J7</b>	Muskoka Road 3 Box 7500 Huntsville, ON P1H, 2 J7
<b>Spatial Coordinates</b>	<b>Zone 17T Easting: 632470 Northing: 5016877</b>	
<b>Number of Employees:</b>	<b>107</b>	
<b>NPRI ID</b>	<b>001199</b>	
<b>Ontario MOE ID Number</b>	<b>5971</b>	
<b>Parent Company Information</b>		
<b>Name and Address</b>	<b>Panolam Industries International Inc.</b>	
<b>Percent Ownership</b>	<b>100</b>	
<b>Business Number</b>	<b>893780742</b>	
<b>Primary North American Industrial Classification System Code (NAICS)</b>		
<b>2 Digit NAICS Code</b>	<b>32</b>	
<b>4 Digit NAICS Code</b>	<b>3212</b>	
<b>6 Digit NAICS Code</b>	<b>321216</b>	
<b>Company Contact Information</b>		
<b>Facility Public Contact</b>	Al Stobbart	Same Address as facility
	Al_stobbart@panolam.com	
	Phone: (705) 789-9683	
	FAX: (705)789-6270	
<b>Parent Company Contact Information</b>		
<b>Parent Company Contact</b>	Jeffrey O'Hearn	Same Address as Parent Company
	Jeffrey_ohearn@panolam.com	
	Phone: (203) 925-1556	
	FAC: (203) 225-0050	

**PLAN SUMMARY STATEMENT:**

This plan accurately reflects the content of the toxic substance reduction plan for pinenes (a-Pinene, B-Pinene, D-Limonene), prepared by Panolam Industries, Ltd.

**STATEMENT OF INTENT:**

Panolam prides itself on being an environmentally proactive company. The facility will strive to reduce the usage, creation and emission of pinenes from the facility.

**REDUCTION OBJECTIVES:**

As pinenes are naturally present in the wood fiber that is used to produce the particleboard panels there are currently no options for reduction however Panolam will continue to monitor its process and current advances in technology in the event that options are available in the future.

**DESCRIPTION OF SUBSTANCE:**

Pinenes: Naturally present in the wood fiber used to produce our particleboard panels

Releases in the drying and pressing of wood fibers to produce particleboard at the facility

Over the past several years the facility has made a significant effort to reduce the scrap levels at the facility which reduces the amount of wood fiber required and therefore reduces the amount of pinenes used in the process.

**TOXIC SUBSTANCE REDUCTION OPTION(S) TO BE IMPLEMENTED:**

No current options have been selected for implementation.

## **PLANNER RECOMMENDATIONS**

Based on **Trinity Consultants Ontario Inc.** (Trinity's) review of the Panolam Industries Ltd.'s Huntsville facility *Toxic Substance Reduction* (TSR) Plan for pinenes, the following recommendations are submitted for consideration:

### **Expertise Relied on in Preparing the Plan**

The TSR Plan was prepared by Jeff O'Hearn, Corporate Environmental Engineer for Panolam Industries International Inc. Mr. O'Hearn also relied on input from representatives at the facility. The technical process and accounting expertise used in preparing the plan appears to be appropriate to the requirements of *O. Reg 455/09* and no additional recommendations are noted in this regard.

### **Identification and Description of Stages and Processes**

The Panolam Huntsville TSR Plan for pinenes provided a detailed summary of the processes of the operations at the subject facility, including the process flow of the target substances. Based on Trinity's review of the TSR Plan document, the processes at the subject facility appear to have been identified and described with a level of detail that is sufficient for the reviewers of the TSR plan to understand the following:

- The purpose and particulars of the toxic substances that are used
- The reason the toxic substances are required
- The nature of inputs that contain the toxic substances
- The locations in which the toxic substances that are used
- The times at which the toxic substances that are used
- The end points/fates of the toxic substances

It is noted that, while the processes are well defined and described, the initial breakdown to stages is defined as a single one. It is understood that, based on the flow of materials, this is considered to be the best available approach. Based on Trinity's review of this component of the TSR Report, no other recommendations are noted in this regard.

### **Process Flow Diagrams**

The Panolam Huntsville TSR Plan provided process flow diagrams for the target substance throughout the facility operations. Based on Trinity's review of the TSR Plan document, the process flow diagrams provided in the TSR report have a sufficient level of detail to illustrate the individual steps of the process as well as their relationship to each other. Therefore, no additional recommendations are noted in this regard.

## **Data and Methods Used in Toxic Substance Accounting**

The Panolam Huntsville TSR Plan used data sources for the target substance that appeared to be in accordance with industry standard practices, including direct measurement and/or laboratory analysis, as well as process engineering estimates. The methodology produced results that were representative of the input/output quantities of toxic substances used at a sufficient balance of cost-effectiveness and accuracy for the TSR reporting, and it did not appear that significant gains in the accuracy of the results could be obtained by replacing any of the estimates with additional measurements and/or laboratory analysis. Therefore, no additional recommendations are submitted in this regard.

## **Analysis of Input/Output Balances**

The Panolam Huntsville TSR Plan quantified the input/output balances using methodology that was consistent with the level of accuracy needed for assessing toxics reduction options, and no significant data gaps were encountered. Based on Trinity's review of the TSR Plan document, the process flow diagrams provided in the TSR report have a sufficient level of detail to illustrate the individual stages of the process as well as their relationship to each other. It is noted that the Input/Output Balances are shown simply as 'In + Created' = 'Out + Destruction/Transformed'. It would be ideal to show each specific input and output, such as 'U4 + U5 = A13 + A14 +DIS5' etc. This is not a necessity, but would facilitate future review. Otherwise, no additional recommendations are noted in this regard.

## **Direct and Indirect Cost Analysis**

The Panolam Huntsville TSR Plan provided an analysis of direct and indirect costs for the reduction of the target toxic substances. Based on Trinity's review of the TSR Plan document, the cost analysis and allocations provided in the TSR report have a sufficient level of detail for the purposes of the TSR Plan. Therefore, no additional recommendations are submitted in this regard.

## **Identified Options**

The Panolam Huntsville TSR Plan provided a rationale as to why no options could be identified. Based on Trinity's review of the TSR Plan document, no additional recommendations are noted in this regard.

### **Reduction Estimates for Each Option**

Based on Trinity's review of the TSR Plan document, no additional recommendations are noted in this regard, as no reduction options were identified.

### **Technical and Economic Feasibility Analysis**

Based on Trinity's review of the TSR Plan document, no additional recommendations are noted in this regard, as no reduction options were identified.

### **Additional Feasible Reduction Options**

Based on our review of the Panolam Huntsville TSR Plan, Trinity does not presently have any additional knowledge of any additional technically and economically feasible options that would result in reductions that are equal to or greater than those already identified in the plan. Therefore, no additional recommendations are noted in this regard.

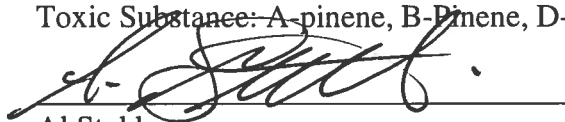
### **Implementation Steps, Timelines, and Achievability**

As no reduction options were identified as being both technically and economically feasible, no implementation steps have been included. Therefore, no additional recommendations are noted in this regard.

**CERTIFICATION BY HIGHEST RANKING EMPLOYEE:**

As of December 17, 2013 I, Al Stobbart, certify that I have read the toxic substance reduction plan for the toxic substance referenced 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.

Toxic Substance: A-pinene, B-Pinene, D-Limonene



Al Stobbart  
Plant Manager  
Panolam Industries Ltd.

**CERTIFICATION BY LICENSED PLANNER:**

As of December 17, 2013, I, Ulla Jokinen of Trinity Consultants Ontario Inc., certify that I am familiar with the processes at the Panolam Industries Ltd Huntsville facility, that uses or creates 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 December 17, 2013 and that the plan complies with the Act and Ontario Regulation 455/09 (General) made under the Act.

Toxic Substance: A-pinene, B-Pinene, D-Limonene



Ulla Jokinen, B.Sc., C.E.T. of Trinity Consultants Ontario Inc.  
Toxic Substance Reduction Planner  
Planner License No: TSRP0090