



**Domtar**

**2013 TOXIC SUBSTANCE REDUCTION PLAN SUMMARY**

**December 16, 2013**

Dryden Mill

Prepared under the Toxics Reduction Act & O. Reg. 455/09

**Domtar Inc.**

**2013 Toxic Substance Reduction Plans**

**Dryden Mill, Dryden, Ontario**

Prepared by:

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December 16, 2013

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**Copy of Certifications**

### **Certification by Highest Ranking Employee**

As of December 16, 2013, I, James Blight, certify that I have read the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the plans are factually accurate and comply with the *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

Acetone  
Alpha-pinene  
Ammonia  
Beta-pinene  
Carbon monoxide  
Chlorine dioxide  
D-Limonene  
Ethyl alcohol  
Ethylene glycol  
Hydrogen sulphide  
Isopropyl alcohol  
Methyl ethyl ketone  
Nitrogen oxides  
Phosphorus  
PM2.5  
PM10  
Sulphur dioxide  
Total particulate matter  
Total reduced sulphur

Original signed copy on file at the facility

James Blight  
General Manager  
Domtar Inc. – Dryden Mill

### Certification by Toxic Substance Reduction Planner

As of December 16, 2013, I, Jennifer Main, certify that I am familiar with the processes at Domtar Inc. – Dryden Mill 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 toxic substance reduction plans referred to below for the toxic substances and that the plans comply with that Act and Ontario Regulation 455/09 (General) made under that Act.

<b>Toxic Substance</b>	<b>Date of Certification</b>
Alpha-pinene	December 16, 2013
Ammonia	December 16, 2013
Beta-pinene	December 16, 2013
Carbon Monoxide	December 16, 2013
Chlorine Dioxide	December 16, 2013
D-limonene	December 16, 2013
Hydrogen Sulphide	December 16, 2013
Nitrogen oxides	December 16, 2013
PM2.5	December 16, 2013
PM10	December 16, 2013
Sulphur Dioxide	December 16, 2013
Total Particulate Matter	December 16, 2013
Total Reduced Sulphur	December 16, 2013

Original signed copy on file at the facility \_\_\_\_\_

Jennifer Main, P. Eng.

Certified Toxic Substance Reduction Planner (License TSRP0001)

### Certification by Toxic Substance Reduction Planner

As of December 16, 2013, I, Mike Stachejczuk, certify that I am familiar with the processes at Domtar Inc. – Dryden Mill 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 toxic substance reduction plans referred to below for the toxic substances and that the plans comply with that Act and Ontario Regulation 455/09 (General) made under that Act.

<b>Toxic Substance</b>	<b>Date of Certification</b>
Acetone	December 16, 2013
Ethyl Alcohol	December 16, 2013
Ethylene Glycol	December 16, 2013
Isopropyl Alcohol	December 16, 2013
Methyl Ethyl Ketone	December 16, 2013
Phosphorus	December 16, 2013

Original signed copy on file at the facility  
Mike Stachejczuk  
Certified Toxic Substance Reduction Planner (License TSRP0245)

# Domtar Environmental Policy

## Environmental Policy

We will conduct business in a manner that conserves resources and constantly reduces our environmental footprint. We seek continual improvement in our environmental performance by setting, reviewing and updating environmental goals.

**We are committed to:**

- Managing operations to comply with all applicable laws and regulations and other requirements to which we subscribe, with emphasis on pollution prevention, and minimizing adverse environmental impacts;
- Identifying and evaluating potential environmental risks and implementing appropriate measures to eliminate or control those risks;
- Developing and implementing measures to ensure sustainable use of materials, resources and energy;
- Promoting and developing awareness, leadership and accountability with respect to environmental protection among all our employees and persons working for us or on our behalf;
- Communicating with our employees, customers, suppliers, the communities in which we operate and public officials to build greater mutual understanding of environmental issues;
- Participating in the development of governmental environment policies based on sound science and sustainable growth principles;
- Supporting research aimed at improving process efficiency and environmental protection measures and applying such knowledge to our product stewardship;
- Conducting independent third party environmental audits to confirm that our management practices meet policy objectives, legislation and the principles of sound management; and reporting to the Board of Directors on the environmental status of our operations.

Our employees share in this responsibility and are accountable for the successful implementation of this policy. Local management is empowered to curtail operations, as necessary, to prevent serious environmental impacts.

*July 2009*





# Basic Facility Information

<b>Basic Facility Information</b>	
The legal and trade names of the owner and operator of the facility, the street and mailing address of the facility	Domtar Inc. 1 Duke St. P.O. Box 3001 Dryden, ON P8N 2Z7
Facility NPRI identification number	928
The identification number assigned to the facility by the Ministry of the Environment for the purposes of Ontario Regulation 127/01	5100
Number of full-time employees	351
UTM Coordinates	x 0511258
	y 5514413
UTM Zone	15
Datum	1983
Legal name of Canadian parent company, the street and mailing address of the company	Domtar Inc. 395 de Maisonneuve Blvd. West Montreal, Quebec H3A 1L6
Percent Ownership	100%
North American Industry Classification System (NAICS) - 2, 4, and 6 digit codes	31-33 3221 322112
Facility Public Contact	Bonny Skene Public Affairs Manager (807) 223 9035

# Acetone

CAS # 80-56-8

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Mr. Mike Stachejczuk (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of acetone because it is an unintentional, trace by-product of the Kraft pulp manufacturing operation. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of acetone because it is an unintentional, trace by-product of the Kraft pulp manufacturing operation. Based on the information gathered in this report, the amount of acetone created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Acetone is not used in the Kraft pulp manufacturing operation.

Acetone is a Volatile Organic Compound (VOC) that is created through complex chemical reactions in the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of acetone.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of acetone created is not expected to significantly increase.

# Alpha-Pinene

CAS # 67-64-1

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its use of alpha-pinene as it is present in wood chips and is a main component of a product (crude sulphate turpentine) produced by the facility for sale. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its use of alpha-pinene as it is present in wood chips and is a main component of a product (turpentine) produced by the facility for sale. Based on the information gathered in this report, the amount of alpha-pinene used is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Alpha-pinene is present in wood chips and is a main component of a product (crude sulphate turpentine) produced by the facility for sale.

Alpha-pinene is not created by the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the use of alpha-pinene.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of alpha-pinene used is not expected to significantly increase.

# Ammonia, Total

CAS # \*\*

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its use of ammonia (total) because it is a source of one of the required nutrients (nitrogen) for microbiological treatment of the mill's effluent that is required to meet regulatory discharge limits. Domtar Inc. – Dryden Mill does not intend to reduce its creation of ammonia (total) because it is unintentional by-product of the wastewater treatment and recausticizing processes which are necessary to maintain the facility operation. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its use of ammonia (total) because it is a source of one of the required nutrients (nitrogen) for microbiological treatment of the mill's effluent that is required to meet regulatory discharge limits. Domtar Inc. – Dryden Mill does not intend to reduce its creation of ammonia (total) because it is unintentional by-product of the wastewater treatment and recausticizing processes which are necessary to maintain the facility operation. Based on the information gathered in this report, the amount of ammonia used or created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Ammonia (as ammonium polyphosphate and urea ammonium nitrate) is used in the wastewater treatment system as source of nitrogen for microbiological treatment of the mill's effluent.

Ammonia is an unintentional by-product of the wastewater treatment and recausticizing processes.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the use and creation of ammonia.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

**Projection of Effectiveness of Toxic Substance Reduction Plan**

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of ammonia created and used is not expected to significantly increase.

# Beta-Pinene

CAS # 127-91-3

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its use of beta-pinene as it is present in wood chips and is a main component of a product (crude sulphate turpentine) produced by the facility for sale. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its use of beta-pinene as it is present in wood chips and is a main component of a product (turpentine) produced by the facility for sale. Based on the information gathered in this report, the amount of beta-pinene used is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Beta-pinene is present in wood chips and is a main component of a product (crude sulphate turpentine) produced by the facility for sale.

Beta-pinene is not created by the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the use of beta-pinene.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of beta-pinene used is not expected to significantly increase.

# Carbon Monoxide

CAS # 630-08-0

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of carbon monoxide because it is an unintentional by-product of fuel combustion and bleaching, both of which are necessary to maintain the facility and its processes. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of carbon monoxide because it is an unintentional by-product of fuel combustion and bleaching, both of which are necessary to maintain the facility and its processes. Based on the information gathered in this report, the amount of carbon monoxide created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Carbon monoxide is not used in any process in the Kraft pulp manufacturing operation.

Carbon monoxide is created during combustion of fuel and in the bleaching process.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of carbon monoxide.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of carbon monoxide created is not expected to significantly increase.

# Chlorine Dioxide

CAS # 7782-50-5

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of chlorine dioxide because it is the main chemical required for bleaching which is an integral process to the production of Kraft pulp for which there is no economically feasible alternative that maintains product quality. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of chlorine dioxide because it is the main chemical required for bleaching which is an integral process to the production of Kraft pulp for which there is no economically feasible alternative that maintains product quality. Based on the information gathered in this report, the amount of chlorine dioxide created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Chlorine dioxide is not purchased for use but is created at the facility for the bleaching process.

Chlorine dioxide is a substance which is created on site for use as a bleaching agent in the production of Northern Bleached Softwood Kraft (NBSK) pulp.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of chlorine dioxide.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of chlorine dioxide created is not expected to significantly increase.



# D-Limonene

CAS # 5989-27-5

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its use of d-limonene as it is present in wood chips and is a component of a product (crude sulphate turpentine) produced by the facility for sale. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its use of d-limonene as it is present in wood chips and is a component of a product (turpentine) produced by the facility for sale. Based on the information gathered in this report, the amount of d-limonene used is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

D-limonene is present in wood chips and is a component of a product (crude sulphate turpentine) produced by the facility for sale.

D-limonene is not created by the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the use of d-limonene.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of d-limonene used is not expected to significantly increase.

# Ethyl Alcohol

CAS # 64-17-5

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Mr. Mike Stachejczuk (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of ethyl alcohol because it is an unintentional, trace by-product of Kraft pulp manufacturing operation. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of ethyl alcohol because it is an unintentional, trace by-product of Kraft pulp manufacturing operation. Based on the information gathered in this report, the amount of ethyl alcohol created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Ethyl alcohol is not used in the Kraft pulp manufacturing operation.

Ethyl alcohol is a Volatile Organic Compound (VOC) that is created through complex chemical reactions in the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of ethyl alcohol.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of ethyl alcohol created is not expected to significantly increase.

# Ethylene Glycol

CAS # 107-21-1

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Mr. Mike Stachejczuk (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its use of ethylene glycol because it is required for heating the operating areas of the facility. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its use of ethylene glycol because it is required for heating the operating areas of the facility. Based on the information gathered in this report, the amount of ethylene glycol is used is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Ethylene glycol is not created in any process in the Kraft pulp manufacturing operation.

Ethylene glycol is used in the HVAC systems of the facility.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the use of ethylene glycol.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of ethylene glycol used is not expected to significantly increase.

# Hydrogen Sulphide

CAS # 7783-06-4

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill is currently undertaking studies to assess if opportunities exist to minimize the potential creation of the hydrogen sulphide that is an unintentional by-product from the operation of the wastewater treatment plant. Once these studies have been completed, the mill will be in better position to identify possible quantifiable actions or reductions in the potential creation of hydrogen sulphide from this source.

Domtar Inc. – Dryden Mill has numerous processes to reduce emissions of the hydrogen sulphide that is an unintentional by-product of the Kraft pulp manufacturing operation. These reductions do not affect the creation of the hydrogen sulphide.

Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill is currently undertaking studies to assess if opportunities exist to minimize the potential creation of the hydrogen sulphide that is an unintentional by-product from the operation of the wastewater treatment plant. Once these studies have been completed, the mill will be in better position to identify possible quantifiable actions or reductions in the potential creation of hydrogen sulphide from this source.

Domtar Inc. – Dryden Mill has numerous processes to reduce emissions of the hydrogen sulphide that are an unintentional by-product of the Kraft pulp manufacturing operation. These reductions do not affect the creation of the hydrogen sulphide.

Based on the information gathered in this report, the amount of hydrogen sulphide created is not expected to significantly increase.

Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Hydrogen sulphide is not used in the Kraft pulp manufacturing operation.

Hydrogen sulphide is a Total Reduced Sulphur (TRS) compound that is created from the reactions of sodium sulphide in the Kraft pulp manufacturing operation.

### **Options to be Implemented**

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of hydrogen sulphide.

### **Estimated Reductions for Options to be Implemented**

Not applicable.

### **Timelines for Achieving Estimated Reductions**

Not applicable.

### **Projection of Effectiveness of Toxic Substance Reduction Plan**

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of hydrogen sulphide created is not expected to significantly increase.

# Isopropyl Alcohol

CAS # 64-63-0

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Mr. Mike Stachejczuk (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of isopropyl alcohol because it is an unintentional, trace by-product of Kraft pulp manufacturing operation. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of isopropyl alcohol because it is an unintentional, trace by-product of Kraft pulp manufacturing operation. Based on the information gathered in this report, the amount of isopropyl alcohol created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Isopropyl alcohol is not used in the Kraft pulp manufacturing operation.

Isopropyl alcohol is a Volatile Organic Compound (VOC) that is created through complex chemical reactions in the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of isopropyl alcohol.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of isopropyl alcohol created is not expected to significantly increase.

# Methyl Ethyl Ketone

CAS # 78-93-9

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Mr. Mike Stachejczuk (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of methyl ethyl ketone because it is an unintentional, trace by-product of the Kraft pulp manufacturing operation. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of methyl ethyl ketone because it is an unintentional, trace by-product of the Kraft pulp manufacturing operation. Based on the information gathered in this report, the amount of methyl ethyl ketone created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Methyl ethyl ketone is not used in the Kraft pulp manufacturing operation.

Methyl ethyl ketone is a Volatile Organic Compound (VOC) that is created through complex chemical reactions in the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of methyl ethyl ketone.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of methyl ethyl ketone created is not expected to significantly increase.

# Nitrogen Oxides

CAS # 11104-93-1

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of nitrogen oxides because it is an unintentional by-product of fuel combustion; a process which is necessary to maintain the facility and its processes. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of nitrogen oxides because it is an unintentional by-product of fuel combustion; a process which is necessary to maintain the facility and its processes. Based on the information gathered in this report, the amount of nitrogen oxides created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Nitrogen oxides are not used in the Kraft pulp manufacturing operation.

Nitrogen oxides are created through complex chemical reactions in combustion of fuels (i.e. natural gas, black liquor, hog fuel).

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of nitrogen oxides.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of nitrogen oxides created is not expected to significantly increase.



# Phosphorus, Total

CAS # \*\*

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Mr. Mike Stachejczuk (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its use because it is a trace contaminant present in wood chips and hog fuel and is used as a source of one of the required nutrients (phosphorus) for microbiological treatment of the mill's effluent that is required to meet regulatory discharge limits. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its use because it is a trace contaminant present in wood chips and hog fuel and is used as a source of one of the required nutrients (phosphorus) for microbiological treatment of the mill's effluent that is required to meet regulatory discharge limits. Based on the information gathered in this report, the amount of phosphorus used is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Phosphorus is used in the Kraft pulp manufacturing operation as a source of one of the required nutrients (phosphorus) for microbiological treatment of the mill's effluent that is required to meet regulatory discharge limits. Phosphorus is also present in the hog fuel and wood chips used in the Kraft pulp manufacturing operation.

Phosphorus is not created by any process in the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the use of phosphorus.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

**Projection of Effectiveness of Toxic Substance Reduction Plan**

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of phosphorus used is not expected to significantly increase.

# PM2.5

CAS # \*\*

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of PM2.5 because it is an unintentional by-product of combustion of solid fuels (black liquor, hog fuel) and natural gas, slaking, lime generation and transferring of wood chips to the digester. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of PM2.5 because it is an unintentional by-product of combustion of solid fuels (black liquor, hog fuel) and natural gas, slaking, lime generation and transferring of wood chips to the digester. Based on the information gathered in this report, the amount of PM2.5 created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

PM2.5 is not used in any process in the Kraft pulp manufacturing operation.

PM2.5 is created mainly by the incineration of solid fuels by the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of PM2.5.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of PM2.5 created is not expected to significantly increase.

# PM10

CAS # \*\*

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of PM10 because it is an unintentional by-product of combustion of solid fuels (black liquor, hog fuel) and natural gas, slaking, lime generation and transferring of wood chips to the digester. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of PM10 because it is an unintentional by-product of combustion of solid fuels (black liquor, hog fuel) and natural gas, slaking, lime generation and transferring of wood chips to the digester. Based on the information gathered in this report, the amount of PM10 created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

PM10 is not used in any process in the Kraft pulp manufacturing operation.

PM10 is created mainly by the incineration of solid fuels by the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of PM10.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of PM10 created is not expected to significantly increase.

# Sulphur Dioxide

CAS # 7446-09-5

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of sulphur dioxide because it is a by-product of the incineration of sulphur containing products (Non-Condensable Gases, Stripper Off Gases, black liquor, natural gas and hog fuel). Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of sulphur dioxide because it is a by-product of the incineration of sulphur containing products (Non-Condensable Gases, Stripper Off Gases, black liquor, natural gas and hog fuel). Based on the information gathered in this report, the amount of sulphur dioxide created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Sulphur dioxide is not used in the Kraft pulp manufacturing operation.

Sulphur dioxide is created through the incineration of sulphur containing products (Non Condensable Gases, Stripper Off Gases, black liquor, natural gas and hog fuel).

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of sulphur dioxide.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of sulphur dioxide created is not expected to significantly increase.

# Total Particulate Matter

CAS # \*\*

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill does not intend to reduce its creation of total particulate matter because it is an unintentional by-product of combustion of solid fuels (black liquor, hog fuel) and natural gas, slaking, lime generation and transferring of wood chips to the digester. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill does not intend to reduce its creation of total particulate matter because it is an unintentional by-product of combustion of solid fuels (black liquor, hog fuel) and natural gas, slaking, lime generation and transferring of wood chips to the digester. Based on the information gathered in this report, the amount of total particulate matter created is not expected to significantly increase. Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Total Particulate Matter (TPM) is not used in any process in the Kraft pulp manufacturing operation.

Total Particulate Matter (TPM) is created mainly by the incineration of solid fuels by the Kraft pulp manufacturing operation.

## Options to be Implemented

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of total particulate matter.

## Estimated Reductions for Options to be Implemented

Not applicable.

## Timelines for Achieving Estimated Reductions

Not applicable.

## Projection of Effectiveness of Toxic Substance Reduction Plan

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of total particulate matter created is not expected to significantly increase.

# Total Reduced Sulphur

CAS # \*\*

## Plan Summary Statement

This toxic substance plan summary accurately reflects the version of the plan that was certified on December 16, 2013 by Mr. James Blight (Highest Ranking Employee) and Ms. Jennifer Main (Certified Toxic Substance Reduction Planner).

## Statement of Intent

Domtar Inc. – Dryden Mill is currently undertaking studies to assess if opportunities exist to minimize the potential creation of the total reduced sulphur that is an unintentional by-product from the operation of the wastewater treatment plant. Once these studies have been completed, the mill will be in better position to identify possible quantifiable actions or reductions in the potential creation of total reduced sulphur from this source.

Domtar Inc. – Dryden Mill has numerous processes to reduce emissions of the total reduced sulphur that are an unintentional by-product of the Kraft pulp manufacturing operation. These reductions do not affect the creation of the total reduced sulphur.

Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Objectives

Domtar Inc. – Dryden Mill is currently undertaking studies to assess if opportunities exist to minimize the potential creation of the total reduced sulphur that is an unintentional by-product from the operation of the wastewater treatment plant. Once these studies have been completed, the mill will be in better position to identify possible quantifiable actions or reductions in the potential creation of total reduced sulphur from this source.

Domtar Inc. – Dryden Mill has numerous processes to reduce emissions of the total reduced sulphur that are an unintentional by-product of the Kraft pulp manufacturing operation. These reductions do not affect the creation of the total reduced sulphur.

Based on the information gathered in this report, the amount of total reduced sulphur created is not expected to significantly increase.

Domtar Inc. – Dryden Mill is committed to continuing to develop and implement measures to ensure sustainable use of materials, resources and energy.

## Description of Why Toxic Substance is Used or Created

Total Reduced Sulphur (TRS) is not used in the Kraft pulp manufacturing operation.

Total Reduced Sulphur (TRS) is created through the reactions from the reactions of sodium sulphide in the Kraft pulp manufacturing operation.

**Options to be Implemented**

No option was identified to be technically and economically feasible. Therefore, no option will be implemented for the reduction of the creation of TRS.

**Estimated Reductions for Options to be Implemented**

Not applicable.

**Timelines for Achieving Estimated Reductions**

Not applicable.

**Projection of Effectiveness of Toxic Substance Reduction Plan**

As no options were identified for implementation and there has not been a significant increase in the production of Kraft pulp at the facility, the amount of TRS created is not expected to significantly increase.