

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Asbestos and CAS # 1332-21-4
Substances for which other plans have been prepared	Formaldehyde, Methanol, Copper, Hexavalent Chromium, Sulphuric Acid, Chlorine, Zinc
Beneficial Uses at Facility	none
Reasons for Use	Ancillary/other use
Reasons for use - summary statement (mandatory)	Historically used as insulation in piping and gasket component, part of an ongoing identification and removal program
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. There are no options specific to the Toxics Reduction Regulation that will be implemented, because the facility already has an extensive asbestos identification and removal program underway. Whenever feasible, we will eliminate, or reduce the use of asbestos in full compliance with all Federal and Provincial Regulations.

## **Plan Objectives**

This plan was developed with the following objectives:

- we will continue to operate in full compliance with all applicable environmental regulations; and
- we will continue our ongoing program of Asbestos removal

## **Description of Substance (Reason for Use and/or Creation)**

Asbestos was historically used as an insulation and gasket component, but has been the subject of an extensive removal program which has been underway for many years.

## **Toxic Substance Reduction Option(s) To Be Implemented**

There are no options specific to the Toxics Reduction Regulation that will be implemented, because the facility already has an extensive asbestos identification and removal program underway. The Asbestos Removal Program will continue until all asbestos has been removed or identified at the facility in accordance with applicable regulations.

## **Description of Previously Implemented Reduction Opportunities:**

- Asbestos is historically present on site and part of an ongoing identification and removal program in accordance with all applicable regulations and best practices.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for asbestos, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

### Certification by Highest Ranking Employee

*Dec 21 MHA*  
As of ~~November 27~~, 2012, I, Rob Aultman, 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.

Toxic Substance: **Asbestos**



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Rob Aultman  
Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

*Dec 21 MHA*  
As of ~~November 27~~, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Asbestos**



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Melanie Hockin  
Toxic Substance Reduction Planner  
License Number: TSRP0140

LEHDER Environmental Services Limited

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Chlorine and CAS # 7782-50-5
Substances for which other plans have been prepared	Formaldehyde, Methanol, Zinc, Copper, Hexavalent Chromium, Sulphuric acid, Asbestos
Beneficial Uses at Facility	biocide
Reasons for Use	Ancillary/other use
Reasons for use - summary statement (mandatory)	Chlorine is required at the site for use as a biocide in the water treatment process.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. Whenever feasible, we will eliminate, or reduce the use and discharge of chlorine in full compliance with all Federal and Provincial Regulations.

## **Plan Objectives**

Our goal is to reduce or eliminate chlorine used at our facility and to further minimize the potential for spills through continuous improvements and our commitment to best management practices.

## **Description of Substance (Reason for Use and/or Creation)**

Chlorine is required at the site for use as a biocide in the water treatment process.

## **Description of Previously Implemented Reduction Opportunities:**

- Replaced valve assembly to prevent losses associated with the equipment.
- Installed instrumentation alarms and developed operating procedures to prevent losses.
- Reduced the usage of chlorine by supplementing with bromine.
- Material is completely reacted prior to discharge.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for chlorine, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

*Date of Plan: **December 15, 2012***

**Toxic Substance Reduction Option(s) to be Implemented**

The following options have been identified for implementation to reduce the use, creation, or releases of chlorine:

		Used	Created	Contained in Product	On-Site Releases to Air	On-Site Releases to Water	On-Site Releases to Land	Disposal On-Site	Disposal Off-Site	Transfer Off-Site for Recycling
<b>Option Description:</b>	Switch to chloride salt/hypochlorite solution technology.									
Estimated Reductions due to Option Implementation	Tonnes	11.7458	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	%	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Timeline for Reductions	Years	2	yr							

Date of Plan: **December 15, 2012**

### Certification by Highest Ranking Employee

<sup>Dec 21 MH</sup>  
As of ~~November~~ 27, 2012, I, Rob Aultman, 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.

Toxic Substance: **Chlorine**



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Rob Aultman

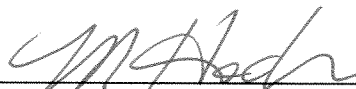
Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

<sup>Dec 21 YMH</sup>  
As of ~~November~~ 27, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Chlorine**



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Melanie Hockin

Toxic Substance Reduction Planner

License Number: TSRP0140

LEHDER Environmental Services Limited

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Copper and CAS # NA-06
Substances for which other plans have been prepared	Formaldehyde, Methanol, Zinc, Hexavalent Chromium, Sulphuric Acid, Chlorine, Asbestos
Beneficial Uses at Facility	key component in catalyst
Reasons for Use	As a manufacturing aid
Reasons for use - summary statement (mandatory)	Copper is a key component of process catalysts used at the facility. These catalysts are highly engineered to meet industry standards. Copper is also a trace component of the naturally occurring feedstock used in the manufacturing process at the facility.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**



## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of copper in its operations because it is a key component of the industry standard catalysts required in the manufacturing process and a naturally occurring component of a feedstock. Whenever feasible, we will eliminate, or reduce the discharge of copper in full compliance with all Federal and Provincial Regulations.

## **Plan Objectives**

While CF Industries Courtright Nitrogen Complex does not intend to reduce the use of copper, the plan was developed with the following objectives:

- we will continue to operate in full compliance with all applicable environmental regulations; and
- we will continue to manage and prevent releases of copper through current and future pollution prevention and best management practices.

## **Description of Substance (Reason for Use and/or Creation)**

Copper is used as a manufacturing aid required in the production of nitrogen products. Specifically, copper is a key component of process catalysts used at the facility. Copper is also a trace component of the naturally occurring feedstock used in the manufacturing process at the facility.

## **Toxic Substance Reduction Option(s) To Be Implemented**

For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of copper in its operations because it is a key component of the industry standard catalysts required in the manufacturing process and a naturally occurring component of a feedstock. In the past, CF Industries Courtright Nitrogen Complex has implemented multiple programs that minimize losses of copper. There were no further feasible reduction options identified.

## **Description of Previously Implemented Reduction Opportunities:**

- Catalyst manufacturers have provided specific training for operations handling of catalysts.
- The process and equipment are continuously monitored and optimized to maximize catalyst life and prevent catalyst poisoning.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for copper, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

*Date of Plan: **December 15, 2012***

### Certification by Highest Ranking Employee

*Dec 21 MH*  
As of ~~November 27~~, 2012, I, Rob Aultman, 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.

Toxic Substance: **Copper**



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Rob Aultman

Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

*December 21 MH*  
As of ~~November 27~~, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Copper**



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Melanie Hockin

Toxic Substance Reduction Planner

License Number: TSRP0140

LEHDER Environmental Services Limited

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Formaldehyde and CAS # 50-00-0
Substances for which other plans have been prepared	Zinc, Methanol, Copper, Hexavalent Chromium, Sulphuric Acid, Chlorine, Asbestos
Beneficial Uses at Facility	Increases product hardness; anticaking agent; improves product shelf life
Reasons for Use	As a formulation component
Reasons for use - summary statement (mandatory)	The substance is an effective anti-caking agent required in granular products; it also improves product hardness and shelf life.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## Statement of Intent

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to further reduce the use of formaldehyde in its operations because it is a key formulation component required in the manufacturing operations at the site. Whenever feasible, we will eliminate, or reduce the discharge of formaldehyde in full compliance with all Federal and Provincial Regulations.

## Plan Objectives

While CF Industries Courtright Nitrogen Complex does not intend to reduce the use of formaldehyde, the plan was developed with the following objectives:

- we will continue to operate in full compliance with all applicable environmental regulations; and
- we will continue to manage and prevent releases of formaldehyde through current and future pollution prevention and best management practices.

## Description of Substance (Reason for Use and/or Creation)

Formaldehyde is used as a key formulation component in the manufacture of nitrogen products. Specifically, formaldehyde is an effective anti-caking agent required in granular products; it also improves product hardness and shelf life.

## Toxic Substance Reduction Option(s) To Be Implemented

For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of formaldehyde in its operations because it is a key formulation component required in the manufacturing operations at the site. In the past, CF Industries Courtright Nitrogen Complex has implemented multiple programs to minimize losses of formaldehyde. There were no further feasible reduction options identified.

## Description of Previously Implemented Reduction Opportunities:

- Switched to one tank instead of two to reduce handling loss potential.
- Switched to lower concentration formaldehyde solution which reduced toxic use and eliminated the formation of sludge/residue.
- Optimized formaldehyde solution usage by monitoring with Totally Distributed Control (TDC) system.

## Plan Summary Statement

This plan summary accurately reflects the content of the toxic substance reduction plan for formaldehyde, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

### Certification by Highest Ranking Employee

*Dec 21 YMA*  
As of ~~November~~ 27, 2012, I, Rob Aultman, 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.

Toxic Substance: **Formaldehyde**



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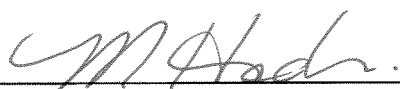
Rob Aultman  
Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

*Dec 21 YMA*  
As of ~~November~~ 27, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Formaldehyde**



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Melanie Hockin  
Toxic Substance Reduction Planner  
License Number: TSRP0140

LEHDER Environmental Services Limited

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Hexavalent Chromium and CAS # NA-19
Substances for which other plans have been prepared	Formaldehyde, Methanol, Zinc, Copper, Sulphuric Acid, Chlorine, Asbestos
Beneficial Uses at Facility	key component in catalyst
Reasons for Use	As a manufacturing aid
Reasons for use - summary statement (mandatory)	Hexavalent Chromium is a key component of process catalysts used at the facility. These catalysts are highly engineered to meet industry standards.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of hexavalent chromium in its operations because it is a key component of the industry standard catalysts required in the manufacturing process.

## **Plan Objectives**

While CF Industries Courtright Nitrogen Complex does not intend to reduce the use of hexavalent chromium, the plan was developed with the following objectives:

- we will continue to operate in full compliance with all applicable environmental regulations; and
- we will continue to manage and prevent releases of hexavalent chromium through current and future pollution prevention and best management practices.

## **Description of Substance (Reason for Use and/or Creation)**

Hexavalent Chromium is used as a manufacturing aid required in the production of nitrogen products. Specifically, hexavalent chromium is a key component of process catalysts used at the facility.

## **Toxic Substance Reduction Option(s) To Be Implemented**

For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of hexavalent chromium in its operations because it is a key component of the industry standard catalysts required in the manufacturing process. In the past, CF Industries Courtright Nitrogen Complex has implemented multiple programs that minimize losses of hexavalent chromium. There were no further feasible reduction options identified.

## **Description of Previously Implemented Reduction Opportunities:**

- Catalyst manufacturers have provided specific training for operations handling of catalysts.
- The process and equipment are continuously monitored and optimized to maximize catalyst life and prevent catalyst poisoning.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for hexavalent chromium, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

*Date of Plan: **December 15, 2012***

### Certification by Highest Ranking Employee

Dec 21 2012

As of ~~November~~ 27, 2012, I, Rob Aultman, 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.

Toxic Substance: **Hexavalent Chromium**



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Rob Aultman

Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

Dec 21 2012

As of ~~November~~ 27, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Hexavalent Chromium**



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Melanie Hockin

Toxic Substance Reduction Planner

License Number: TSRP0140

LEHDER Environmental Services Limited



## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Methanol and CAS # 67-56-1
Substances for which other plans have been prepared	Zinc, Formaldehyde, Copper, Hexavalent Chromium, Sulphuric Acid, Chlorine, Asbestos
Beneficial Uses at Facility	required as a stabilizer in the formaldehyde solution used at the site
Reasons for Use	As a formulation component
Reasons for use - summary statement (mandatory)	The substance is a key component in a raw material required in manufacturing processes at the site, it is also used minimally as a lab solvent.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
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### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to further reduce the use of methanol in its operations because it is a key formulation component required in the manufacturing operations at the site. Whenever feasible, we will eliminate, or reduce the discharge of methanol in full compliance with all Federal and Provincial Regulations.

## **Plan Objectives**

While CF Industries Courtright Nitrogen Complex does not intend to reduce the use of methanol, the plan was developed with the following objectives:

- we will continue to operate in full compliance with all applicable environmental regulations; and
- we will continue to manage and prevent releases of methanol through current and future pollution prevention and best management practices.

## **Description of Substance (Reason for Use and/or Creation)**

Methanol is used as a key formulation component in the manufacture of nitrogen products. Specifically, methanol is a stabilizer for the formaldehyde solution required in some granular products.

## **Toxic Substance Reduction Option(s) To Be Implemented**

For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of methanol in its operations because it is a key formulation component required in the manufacturing operations at the site. In the past, CF Industries Courtright Nitrogen Complex has implemented multiple programs to minimize losses of methanol. There were no further feasible reduction options identified.

## **Description of Previously Implemented Reduction Opportunities:**

- Switched to one tank instead of two to reduce handling loss potential.
- Switched to lower concentration formaldehyde solution (also has lower methanol content) which reduced toxic use and eliminated the formation of sludge/residue.
- Optimized formaldehyde solution usage by monitoring with Totally Distributed Control (TDC) system.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for methanol, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

### Certification by Highest Ranking Employee

*Dec 21 MHA*  
As of ~~November 27~~, 2012, I, Rob Aultman, 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.

Toxic Substance: **Methanol**



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Rob Aultman

Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

*Dec 21 MHA*  
As of ~~November 27~~, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Methanol**



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Melanie Hockin

Toxic Substance Reduction Planner

License Number: TSRP0140

LEHDER Environmental Services Limited

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Sulphuric Acid and CAS # 7664-93-9
Substances for which other plans have been prepared	Formaldehyde, Methanol, Zinc, Copper, Hexavalent Chromium, Chlorine, Asbestos
Beneficial Uses at Facility	regeneration of demin system; pH control of cooling tower
Reasons for Use	Ancillary/other use
Reasons for use - summary statement (mandatory)	Sulphuric Acid is required at the site for use in regenerating the demineralization system and pH control in the cooling tower water.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
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Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
Percent Ownership (if available)	100%

### Facility Contact

Public Contact	Tom Croskery
Position	Supervisor Quality & Environment
Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. The facility does not intend to further reduce the use of sulphuric acid because of the success of previously implemented reduction efforts.

## **Plan Objectives**

While Terra International (Canada) Inc. does not intend to reduce the use of sulphuric acid, our goal is to further minimize the potential for sulphuric acid losses through continuous improvements and our commitment to best management practices.

## **Description of Substance (Reason for Use and/or Creation)**

Sulphuric Acid is required at the site for use in regenerating the demineralization system and pH control in the cooling tower water.

## **Toxic Substance Reduction Option(s) To Be Implemented**

For the purposes of the Toxics Reduction Act, the Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of sulphuric acid because the facility has already minimized sulphuric acid use and losses through previously implemented reduction efforts.

## **Description of Previously Implemented Reduction Opportunities:**

- The process and equipment are continuously monitored and optimized to prevent over use and minimize loss potential (ie, automated dosing and pH monitoring).
- Acid is completely neutralized prior to discharge.
- Spill Prevention and Contingency Plan (SPCP) established, all totes/drums have secondary containment.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for sulphuric acid, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

### Certification by Highest Ranking Employee

*Dec 21 MH*  
As of ~~November 27~~, 2012, I, Rob Aultman, 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.

Toxic Substance: **Sulphuric Acid**



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Rob Aultman  
Plant Leader  
Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### Certification by Licensed Planner

*Dec 21 MH*  
As of ~~November 27~~, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Sulphuric Acid**



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Melanie Hockin  
Toxic Substance Reduction Planner  
License Number: TSRP0140  
LEHDER Environmental Services Limited

## Toxic Reduction Plan Summary

### Substance

Substance Name and CAS #	Zinc and CAS # NA-14
Substances for which other plans have been prepared	Formaldehyde, Methanol, Copper, Hexavalent Chromium, Sulphuric Acid, Chlorine, Asbestos
Beneficial Uses at Facility	key component in catalyst
Reasons for Use	As a manufacturing aid
Reasons for use - summary statement (mandatory)	Zinc is a key component of process catalysts used at the facility. These catalysts are highly engineered to meet industry standards. Zinc is also a trace component of the naturally occurring feedstock used in the manufacturing process at the facility.
Reasons for Creation	This substance is not created at the facility
Reasons for creation - summary statement (mandatory)	N/A

### Facility Information

Company Name	Terra International (Canada) Inc.
Facility Name	CF Industries Courtright Nitrogen Complex
Facility Physical Address	161 Bickford Line, Courtright, ON, Canada, N0N 1H0
Facility Mailing Address	Same as physical address
Spatial Coordinates of Facility	381104 Easting; 4735453 Northing
Number of Employees	158
NPRI ID	2233
Ontario MOE (R.127)ID Number	if assigned
2 Digit NAICS Code	31-33
4 Digit NAICS Code	3253
6 Digit NAICS Code	325313

### Parent Company Information

Parent Company Name	CF Industries Holdings Inc.
Address	Suite 400 - 4 Parkway North, Deerfield, IL, USA, 60015-2590
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email	TCroskery@cfindustries.com
Phone	519-867-2739 x1292
Fax	519-867-3173

Date of Plan: **December 15, 2012**

## **Statement of Intent**

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex is committed to playing a leadership role in protecting the environment. For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of zinc in its operations because it is a key component of the industry standard catalysts required in the manufacturing process and a naturally occurring component of a feedstock. Whenever feasible, we will eliminate, or reduce the discharge of zinc in full compliance with all Federal and Provincial Regulations.

## **Plan Objectives**

While CF Industries Courtright Nitrogen Complex does not intend to reduce the use of zinc, the plan was developed with the following objectives:

- we will continue to operate in full compliance with all applicable environmental regulations; and
- we will continue to manage and prevent releases of zinc through current and future pollution prevention and best management practices.

## **Description of Substance (Reason for Use and/or Creation)**

Zinc is used as a manufacturing aid required in the production of nitrogen products. Specifically, zinc is a key component of process catalysts used at the facility. Zinc is also a trace component of the naturally occurring feedstock used in the manufacturing process at the facility.

## **Toxic Substance Reduction Option(s) To Be Implemented**

For the purposes of the Toxics Reduction Act, CF Industries Courtright Nitrogen Complex will not be implementing any options to reduce the use of zinc in its operations because it is a key component of the industry standard catalysts required in the manufacturing process and a naturally occurring component of a feedstock. In the past, CF Industries Courtright Nitrogen Complex has implemented multiple programs that minimize losses of zinc. There were no further feasible reduction options identified.

## **Description of Previously Implemented Reduction Opportunities:**

- Catalyst manufacturers have provided specific training for operations handling of catalysts.
- The process and equipment are continuously monitored and optimized to maximize catalyst life and prevent catalyst poisoning.

## **Plan Summary Statement**

This plan summary accurately reflects the content of the toxic substance reduction plan for zinc, prepared by Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex, dated December 15, 2012.

*Date of Plan: **December 15, 2012***



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

*Dec 21 MTH*  
As of ~~November~~ 27, 2012, I, Rob Aultman, 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.

Toxic Substance: **Zinc**



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Rob Aultman  
Plant Leader

Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex

### **Certification by Licensed Planner**

*Dec 21 MTH*  
As of ~~November~~ 27, 2012, I, Melanie Hockin certify that I am familiar with the processes at Terra International (Canada) Inc. - CF Industries Courtright Nitrogen Complex 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 December 15, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substance: **Zinc**



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Melanie Hockin  
Toxic Substance Reduction Planner  
License Number: TSRP0140  
LEHDER Environmental Services Limited