# 2012 Toxic Substance Reduction Plan Summaries

## Morbern Inc.
## Cornwall, Ontario

February 21, 2014

# BASIC FACILITY INFORMATION

## Substances Included in the Plan

- Isopropyl Alcohol (IPA) (CAS No. 67-63-0)
- Methyl Ethyl Ketone (MEK) (CAS No. 78-93-3)
- Methyl Isobutyl Ketone (MIBK) (CAS No. 108-10-1)
- Naphtha (Isopar k) (CAS No. 64742-48-9)
- Propylene Glycol Monomethyl Ether Acetate (PGMEA) (CAS No. 108-65-6)
- Stoddard Solvent (CAS No. 8052-41-3)
- Tetrahydrofuran (THF) (CAS No. 109-99-9)
- Xylene (CAS No. 1330-20-7)
- Zinc Compounds (CAS No. N/A-14)

## Facility Identification and Site Address

| | | |
|---|---|---|
| **Company Name** | Morbern Inc. | |
| **Facility Name** | Morbern Inc. | |
| **Facility Address** | Physical Address: | Mailing Address: |
| | 80 Boundary Road<br>Cornwall, ON<br>K6H 6M1 | Same as physical address |
| **Number of Employees** | 300 | |
| **NPRI ID** | 0741 | |
| **Ontario MOE ID Number** | 6243 | |

## Facility and Planner Contact Information

| | | |
|---|---|---|
| **Facility Public Contact** | Dale Witty, EHS Manager | Morbern Inc. |
| | Email: dwitty@morbern.com | Same as facility address |
| | Phone: 613-330-8966 | |
| **Facility Technical Contact** | Dale Witty, EHS Manager | Morbern Inc. |
| | Email: dwitty@morbern.com | Same as facility address |
| | Phone: 613-330-8966 | |
| **Facility TSRP Coordinator Contact** | Dale Witty, EHS Manager | Morbern Inc. |
| | Email: dwitty@morbern.com | Same as facility address |
| | Phone: 613-330-8966 | |
| **Person who Prepared the Plan (if different from the TSRP coordinator)** | Colin Welburn | RWDI AIR Inc. |
| | Email: ctw@rwdi.com | 650 Woodlawn Road West<br>Guelph, Ontario<br>N1K 1B8 |
| | Phone: (519) 823-1311 x 2325 | |
| **Planner Responsible for Making Recommendations** | Colin Welburn | RWDI AIR Inc. |
| | Planner License No.: TSRP0049 | 650 Woodlawn Road West<br>Guelph, Ontario<br>N1K 1B8 |
| | Email: ctw@rwdi.com | |
| | Phone: (519) 823-1311 x 2325 | |
| **Highest Ranking Employee** | Jacques St. Denis, President | Morbern Inc. |
| | Email: jstdenis@morbern.com | Same as facility address |
| | Phone: 613-360-1707 | |
| **Planner Responsible for Certification** | Colin Welburn | RWDI AIR Inc. |
| | Planner License No.: TSRP0049 | 650 Woodlawn Road West<br>Guelph, Ontario<br>N1K 1B8 |
| | Email: ctw@rwdi.com | |
| | Phone: (519) 823-1311 x 2325 | |

# 1. ISOPROPYL ALCOHOL (IPA) (CAS NO. 67-63-0)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of IPA.

**Description of Used of Substance**

IPA is used as a major component of the Clear Coat, which is used as a base carrier for the Top Coat in the printers. It is also a common component of many of the inks added to the top coat.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider feedstock substitution, equipment or process modification and training or improved operating practices.

- Complete chemical substitution to reduce the use of bulk IPA by 30% by January 1, 2018.
- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for IPA, dated February 21, 2014.*

## 2. METHYL ETHYL KETONE (MEK) (CAS NO. 78-93-3)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of MEK.

**Description of Used of Substance**

MEK is used as a major component of the Clear Coat, which is used as a base carrier for the Top Coat in the printers. MEK is also used as a viscosity control agent during print runs and as a cleaning agent in many areas of the printing process.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider feedstock substitution, equipment or process modification and training or improved operating practices.

- Complete chemical substitution to substantially reduce the use of bulk MEK by 67% by January1, 2018.
- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for MEK, dated February 21, 2014.*

## 3. METHYL ISOBUTYL KETONE (MIBK) (CAS NO. 108-10-1)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of MIBK.

**Description of Used of Substance**

MIBK is a component of Flex Dull, a compound that is used in Top Coats to maintain the vinyl's colour properties when flexed.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider feedstock substitution, equipment or process modification and training or improved operating practices.

- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for MIBK, dated February 21, 2014.*

## 4. NAPHTHA (CAS NO. 91-20-3)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of Naphtha.

**Description of Used of Substance**

Naphtha is used as a cleaning compound

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider training or improved operating practices.

- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for Naphtha, dated February 21, 2014.*

## 5. PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE (PGMEA) (CAS NO. 108-65-6)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of PGMEA.

**Description of Used of Substance**

PGMEA is a component of Zoldine XL-29SE Crosslinker , a compound that is used to improve the adhesion of dyes to the vinyl for water based top-coats in Marine vinyl products.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider equipment or process modification and training or improved operating practices.

- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for PGMEA, dated February 21, 2014.*

## 6. STODDARD SOLVENT (CAS NO. 108-65-6)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of Stoddard solvent.

**Description of Used of Substance**

Stoddard Solvent is a component of a dye that is used in Automotive topcoats.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider equipment or process modification and training or improved operating practices.

- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for Stoddard solvent, dated February 21, 2014.*

## 7. TETRAHYDROFURAN (THF) (CAS NO. 109-99-9)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of THF.

**Description of Used of Substance**

THF is used as a major component of the Clear Coat, which is used as a base carrier for the Top Coat in the printers.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider feedstock substitution, equipment or process modification and training or improved operating practices.

- Complete chemical substitution to reduce the use of bulk THF by 80% by January 1, 2018.
- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for THF, dated February 21, 2014.*

## 8. XYLENE (CAS NO. 67-63-0)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of Xylene.

**Description of Used of Substance**

Xylene is used as a major component of the Clear Coat, which is used as a base carrier for the Top Coat in the printers. It is also a common component of many of the inks added to the top coat.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider feedstock substitution, equipment or process modification and training or improved operating practices.

- Complete chemical substitution to substantially reduce the use of bulk Xylene by 6% by January 1, 2018.
- Evaluate the feasibility of replacing open batch roll coat stations with enclosed doctor blade reservoir technology. This will result in an 80% reduction disposal of substances used in the printing process by January 1, 2018.
- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for Xylene, dated February 21, 2014.*

## 9. ZINC (CAS NO. N/A-14)

**Statement of Intent**

In accordance with s. 4(1)1 of the Toxics Reduction Act and Morbern Inc.'s commitment to pollution prevention, Morbern intends to reduce or minimize the use, creation and releases of the listed substance wherever technically and economically viable.

**Objectives**

Morbern Inc., in compliance with the Toxic Reduction Act (2009) and O.Reg. 455/09, does intend to reduce the use of Zinc.

**Description of Used of Substance**

Zinc is an ingredient in the compounds used to manufacture vinyl.

**Description Option(s) to be Implemented**

Morbern Inc. will be implementing reduction options through the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) that consider training or improved operating practices.

- Lean manufacturing improvements, which will further reduce waste disposal of all substances by 1.6% by January 1, 2016.

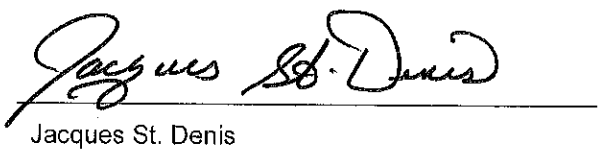
*This plan summary accurately reflects the Toxic Reduction Plan that has been prepared by RWDI AIR Inc. and Morbern Inc. for Zinc, dated February 21, 2014.*

## Certification by Highest Ranking Employee

As of February 21, 2014, I, Jacques St. Denis, 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 (with the exception of paragraph 1 of subsection 11.1 - Timing) comply with the *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

Substances

- Isopropyl Alcohol (IPA) (CAS No. 67-63-0)
- Methyl Ethyl Ketone (MEK) CAS No. 78-93-3)
- Methyl Isobutyl Ketone (MIBK) (CAS No. 108-10-1)
- Naphtha (Isopar k) (CAS No. 64742-48-9)
- Propylene Glycol Monomethyl Ether Acetate (PGMEA) (CAS No. 108-65-6)
- Stoddard Solvent (CAS No. 8052-41-3)
- Tetrahydrofuran (THF) (CAS No. 109-99-9)
- Xylene (CAS No. 1330-20-7)
- Zinc Compounds (CAS No. N/A-14)



Jacques St. Denis

President

Morbern, Inc.

## Certification by Licensed Planner

As of February 14, 2014 I, Colin Welburn, certify that I am familiar with the processes at Morbern Inc. 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 the Act and (with the exception of paragraph 1 of subsection 11.1 - Timing) the Ontario Regulation 455/09 (General) made under that Act, of Ontario.

| Substance | Date of Certified Plan |
|---|---|
| •Isopropyl Alcohol (CAS No. 67-63-0) | February 14, 2014 |
| •Methyl Ethyl Ketone (MEK) CAS No. 78-93-3) | February 14, 2014 |
| •Methyl Isobutyl Ketone (MIBK) (CAS No. 108-10-1) | February 14, 2014 |
| •Naphtha (Isopar k) (CAS No. 64742-48-9) | February 14, 2014 |
| •Propylene Glycol Monomethyl Ether Acetate (PGMEA) (CAS No. 108-65-6) | February 14, 2014 |
| •Stoddard Solvent (CAS No. 8052-41-3) | February 14, 2014 |
| •Tetrahydrofuran (THF) (CAS No. 109-99-9) | February 14, 2014 |
| •Xylene (CAS No. 1330-20-7) | February 14, 2014 |
| •Zinc Compounds (CAS No. N/A-02) | February 14, 2014 |

Colin Welburn, Planner License #TSRP0049
Senior Project Manager / Toxic Substance Reduction Planner
RWDI