

## PRODUCT SAFETY INFORMATION SHEET

This is a condensed document providing safety and health information pertinent to the product. For a complete regulatory MSDS please contact your Tnemec Representative at [www.tnemec.com](http://www.tnemec.com) or 1-800-TNEMEC1.

Preparation Date: 02-Apr-2009

Revision Date: NOT AUTHORIZED

Revision Number: NOT AUTHORIZED

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### DANGER!

FLAMMABLE LIQUID AND VAPOR.  
 POISON, MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED  
 HARMFUL IF INHALED.  
 MAY BE HARMFUL IF ABSORBED THROUGH SKIN.  
 MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.  
 MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.

### Potential Health Effects

#### Principle Routes of Exposure

Eye contact, Inhalation, Skin contact.

#### Acute Effects

##### Eyes

Severe irritation.

##### Skin

Irritating to skin.

##### Inhalation

Irritating to respiratory system. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs.

##### Ingestion

May be harmful if swallowed.

#### Chronic Effects

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure.)

#### Target Organ Effects

Blood, Central nervous system, Gastrointestinal tract, Eyes, Kidney, Liver, Lungs, Reproductive System, Respiratory system, Skin

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous Components

| Component                   | CAS-No     | Weight % |
|-----------------------------|------------|----------|
| ETHANOL                     | 64-17-5    | 42.2907  |
| CRYSTALLINE SILICA (QUARTZ) | 14808-60-7 | 16.3795  |
| ETHYL POLYSILICATE          | 11099-06-2 | 15.11943 |
| ETHYL SILICATE              | 78-10-4    | 7.001005 |
| MICA (RESPIRABLE DUST)      | 12001-26-2 | 6.416101 |
| IRON OXIDE FUME             | 1309-37-1  | 3.0615   |
| METHANOL (SKIN)             | 67-56-1    | 2.389329 |
| ETHYL ACETATE               | 141-78-6   | 1.836341 |
| TRIMETHYL BORATE            | 121-43-7   | 1.25349  |

## 4. FIRST AID MEASURES

#### Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### Skin Contact

Wash off immediately with soap and plenty of water. Consult a physician if necessary.

#### Ingestion

If swallowed, do not induce vomiting. Get medical attention immediately.

#### Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

### Flammable Properties

Flammable.

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Contact with water may cause violent frothing. Use: Carbon dioxide (CO<sub>2</sub>) - Foam - Dry chemical

**Hazardous Decomposition Products** Oxides of carbon, hydrocarbons.

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapours. In the event of fire and/or explosion do not breathe fumes.

### Protective Equipment and Precautions for Firefighters

Use water spray to cool unopened containers. In the event of fire, wear self-contained breathing apparatus. Keep away from heat/sparks/open flames/hot surfaces. May cause heat and pressure build-up in closed containers. Solvent vapors are heavier than air and may spread along floors. Flash back possible over considerable distance.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.

### Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

### Methods for Cleaning Up

If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

## 7. HANDLING AND STORAGE

### Handling

Close container after each use. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. If splashes are likely to occur, wear goggles. Wear protective gloves/clothing. Do not burn, or use a cutting torch on, the empty drum. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

### Storage

Keep away from heat, sparks and flame. VAPORS MAY CAUSE FLASH FIRE. Use only in an area containing flame proof equipment. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

| Component                   | ACGIH TLV   | OSHA PEL   | Quebec TWAEV   | Ontario TWAEV  | Mexico OEL (TWA)   |
|-----------------------------|---|--|--|--|--|
| ETHANOL                     | TWA: 1000 ppm                                     | TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>  | TWA: 1000 ppm TWA: 1880 mg/m <sup>3</sup>  | TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>  | TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>  |
| CRYSTALLINE SILICA (QUARTZ) | TWA: 0.025 mg/m <sup>3</sup>                      | TWA: 0.1 mg/m <sup>3</sup>   | TWA: 0.1 mg/m <sup>3</sup>   | TWA: 0.10 mg/m <sup>3</sup>  | TWA: 0.1 mg/m <sup>3</sup>   |
| ETHYL SILICATE              | TWA: 10 ppm                                       | TWA: 85 mg/m <sup>3</sup> TWA: 10 ppm TWA: 100 ppm TWA: 850 mg/m <sup>3</sup>          | TWA: 10 ppm TWA: 85 mg/m <sup>3</sup>  | TWA: 85 mg/m <sup>3</sup> TWA: 10 ppm  | TWA: 10 ppm TWA: 85 mg/m <sup>3</sup> STEL: 30 ppm STEL: 255 mg/m <sup>3</sup>                         |
| MICA (RESPIRABLE DUST)      | TWA: 3 mg/m <sup>3</sup>                          | TWA: 3 mg/m <sup>3</sup>   | TWA: 3 mg/m <sup>3</sup>   | TWA: 3 mg/m <sup>3</sup>   | TWA: 3 mg/m <sup>3</sup>   |
| IRON OXIDE FUME             | TWA: 1 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup>  | TWA: 1 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>                                      | TWA: 5 mg/m <sup>3</sup>   | TWA: 1 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup> |
| METHANOL (SKIN)             | TWA: 200 ppm Skin STEL: 250 ppm                   | TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> STEL: 325 mg/m <sup>3</sup> STEL: 250 ppm Skin | TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 328 mg/m <sup>3</sup> STEL: 250 ppm Skin | TWA: 260 mg/m <sup>3</sup> TWA: 200 ppm STEL: 325 mg/m <sup>3</sup> STEL: 250 ppm Skin | TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> STEL: 310 mg/m <sup>3</sup> STEL: 250 ppm                      |
| ETHYL ACETATE               | TWA: 400 ppm                                      | TWA: 1400 mg/m <sup>3</sup> TWA: 400 ppm   | TWA: 1440 mg/m <sup>3</sup> TWA: 400 ppm   | TWA: 1440 mg/m <sup>3</sup> TWA: 400 ppm   | TWA: 1400 mg/m <sup>3</sup> TWA: 400 ppm   |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas

### Personal Protective Equipment

#### Skin Protection

Lightweight protective clothing, Apron, Impervious gloves

#### Eye/face Protection

If splashes are likely to occur, wear Goggles.

**Respiratory Protection**

**Use only with adequate ventilation.** Do not breathe dust, vapors or spray mist. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                              |                             |                              |                             |
|------------------------------|-----------------------------|------------------------------|-----------------------------|
| <b>Flash Point</b>           | 12°C / 53.0°F               | <b>Method</b>                | Pensky Martens - Closed Cup |
| <b>Boiling Point/Range</b>   | 64 - 81°C / 147.0 - 178.0°F | <b>Upper Exposure Limits</b> | No information available    |
| <b>Lower Exposure Limits</b> | No information available    | <b>Evaporation Rate</b>      | No information available    |
| <b>Vapour Pressure</b>       | No information available    | <b>Vapour Density</b>        | No information available    |
| <b>Specific Gravity</b>      | 1.06388                     | <b>Density</b>               | 8.85311                     |
| <b>VOC Content (lbs/gal)</b> | 5.063                       | <b>% Volatile by Weight</b>  | 58.0330                     |
| <b>% Volatile by Volume</b>  | 75.5451                     |                              |                             |

## 10. STABILITY AND REACTIVITY

|                              |   |   |   |
|------------------------------|---|---|---|
| <b>Chemical stability</b>    | Stable.   | <b>Conditions to Avoid</b>                | Heat, flames and sparks. Contact with water liberates toxic gas (methanol). |
| <b>Incompatible Products</b> | Strong oxidizing agents. Acids. Alkalines. Amines. Nitrates. Hypochlorites. Boric Acid. | <b>Possibility of Hazardous Reactions</b> | None under normal processing  |

## 13. DISPOSAL CONSIDERATIONS

|                               |  |
|-------------------------------|--|
| <b>Waste Disposal Methods</b> | Keep container tightly closed. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. |
| <b>Contaminated Packaging</b> | Empty containers should be taken for local recycling, recovery or waste disposal   |

## 16. OTHER INFORMATION

**SARA 313**

| Component       | CAS-No  | Weight % | SARA 313 - Threshold Values |
|-----------------|---------|----------|-----------------------------|
| METHANOL (SKIN) | 67-56-1 | 2.389329 | 1.0                         |

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

**Component**

METHANOL (SKIN)

**HMIS**

Health 2

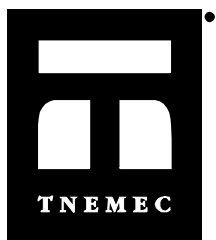
Flammability 3

Reactivity 1

**Disclaimer**

For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

To the best of our knowledge, the information contained herein is accurate. However, neither the Tnemec Company or any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.



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Preparation Date: 03-Apr-2009

Revision Date: 03-Apr-2009

Revision Number: 0

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### WARNING!

HARMFUL BY INHALATION.  
MAY CAUSE HEADACHE AND DIZZINESS.  
MAY CAUSE FLU-LIKE SYMPTOMS.  
MAY BE IRRITATING TO EYES, NOSE, THROAT, SKIN, AND RESPIRATORY SYSTEM.

### Potential Health Effects

#### Principle Routes of Exposure

Inhalation

#### Acute Effects

##### Eyes

May cause slight irritation

##### Skin

Substance may cause slight skin irritation

##### Inhalation

May cause irritation of respiratory tract. Inhalation of metallic zinc dust may result in symptoms known as metal fume fever. Symptoms include chills, fever, muscular pain, nausea and vomiting.

##### Ingestion

Gastrointestinal discomfort.

#### Chronic Effects

Avoid repeated exposure

#### Target Organ Effects

Respiratory system

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous Components

| Component               | CAS-No    | Weight % |
|-------------------------|-----------|----------|
| ZINC (TOTAL DUST)       | 7440-66-6 | 97       |
| ZINC OXIDE (TOTAL DUST) | 1314-13-2 | 3        |

## 4. FIRST AID MEASURES

#### Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### Skin Contact

Wash off immediately with soap and plenty of water. Consult a physician if necessary.

#### Ingestion

If swallowed, do not induce vomiting. Get medical attention immediately.

#### Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

#### Flammable Properties

No information available

#### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do NOT use water jet.  
Use: Carbon dioxide (CO2) - Foam - Dry chemical

**Hazardous Decomposition Products** Zinc oxide fume.

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapours. In the event of fire and/or explosion do not breathe fumes.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

|                                  |   |
|----------------------------------|---|
| <b>Personal Precautions</b>      | Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.  |
| <b>Environmental Precautions</b> | Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. |
| <b>Methods for Cleaning Up</b>   | Shovel or sweep up.   |

## 7. HANDLING AND STORAGE

### Handling

Close container after each use. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Tightly fitting safety goggles. Wear protective gloves/clothing. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

### Storage

Keep away from heat, sparks and flame. Keep in a dry place. Keep container tightly closed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Component               | ACGIH TLV   | OSHA PEL  | Quebec TWAEV  | Ontario TWAEV                                       | Mexico OEL (TWA)  |
|-------------------------|---|---|---|---|---|
| ZINC OXIDE (TOTAL DUST) | TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> | TWA: 5 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> | TWA: 5 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas

### Personal Protective Equipment

#### Skin Protection

Lightweight protective clothing, Apron, Impervious gloves

#### Eye/face Protection

Tightly fitting safety goggles

#### Respiratory Protection

**Use only with adequate ventilation.** Do not breathe dust, vapors or spray mist. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use.

#### General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                              |                          |                              |                             |
|------------------------------|--------------------------|------------------------------|-----------------------------|
| <b>Flash Point</b>           | Not applicable           | <b>Method</b>                | Pensky Martens - Closed Cup |
| <b>Boiling Point/Range</b>   | No information available | <b>Upper Exposure Limits</b> | No information available    |
| <b>Lower Exposure Limits</b> | No information available | <b>Evaporation Rate</b>      | No information available    |
| <b>Vapour Pressure</b>       | No information available | <b>Vapour Density</b>        | No information available    |
| <b>Specific Gravity</b>      | 7.06595                  | <b>Density</b>               | 58.79932                    |
| <b>VOC Content (lbs/gal)</b> | .000                     | <b>% Volatile by Weight</b>  | .0000                       |
| <b>% Volatile by Volume</b>  | .0000                    |                              |                             |

## 10. STABILITY AND REACTIVITY

|                              |   |   |                              |
|------------------------------|---|---|------------------------------|
| <b>Chemical stability</b>    | Stable.   | <b>Conditions to Avoid</b>                | Heat, flames and sparks.     |
| <b>Incompatible Products</b> | Strong oxidizing agents. Bases. Acids. Water. Product may release hydrogen. | <b>Possibility of Hazardous Reactions</b> | None under normal processing |

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods**

Keep container tightly closed. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

**Contaminated Packaging**

Empty containers should be taken for local recycling, recovery or waste disposal

### 16. OTHER INFORMATION

**SARA 313**

| Component               | CAS-No    | Weight % | SARA 313 - Threshold Values |
|-------------------------|-----------|----------|-----------------------------|
| ZINC (TOTAL DUST)       | 7440-66-6 | 97       | 1.0                         |
| ZINC OXIDE (TOTAL DUST) | 1314-13-2 | 3        | 1.0                         |

**HMIS****Health 2****Flammability 1****Reactivity 1****Disclaimer**

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