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 or 1-800-TNEMEC1.

Preparation Date: 18-Mar-2009 **Revision Date:** 18-Mar-2009 **Revision Number:** 0

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

FLAMMABLE LIQUID AND VAPOR.
HARMFUL IF INHALED.
CAUSES SKIN AND EYE BURNS.
HARMFUL OR FATAL IF SWALLOWED.
MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

Potential Health Effects

Principle Routes of Exposure Eye contact, Inhalation, Skin contact.

Acute Effects

Eyes Causes burns.
Skin Causes burns. May cause sensitization by skin contact.
Inhalation Irritating to respiratory system.
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.

Target Organ Effects

Central nervous system, Central Vascular System, Eyes, Lungs, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
BARIUM SULFATE (TOTAL DUST)	7727-43-7	26.1327
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	17.3101
POLYAMIDE RESIN	68410-23-1	14.35375
TALC (RESPIRABLE DUST)	14807-96-6	13.5545
XYLENE	1330-20-7	10.09647
N-BUTANOL (SKIN)	71-36-3	8.6023
ETHYL BENZENE	100-41-4	2.343602
MODIFIED ALIPHATIC AMINE	90-72-2	2.144
AMORPHOUS SILICA	7631-86-9	2.13705
ALUMINUM OXIDES	1344-28-1	1.923345
TRIETHYLENE TETRAMINE	112-24-3	0.869924

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 (CO2) - Foam - Dry chemical

Hazardous Decomposition Products Oxides of carbon, hydrocarbons. Oxides of nitrogen. Aldehydes.

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)
BARIUM SULFATE (TOTAL DUST)	TWA: 10 mg/m^3 TWA: 0.5 mg/m^3	TWA: 5 mg/m^3 TWA: 10 mg/m^3 TWA: 15 mg/m^3	TWA: 10 ppm TWA: 5 ppm TWA: 0.5 mg/m^3	TWA: 10 mg/m^3	TWA: 0.5 mg/m^3
TITANIUM DIOXIDE (TOTAL DUST)	TWA: 10 mg/m^3	TWA: 10 mg/m^3 TWA: 15 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3 STEL: 20 mg/m^3
TALC (RESPIRABLE DUST)	TWA: 2 mg/m^3	TWA: 2 mg/m^3	TWA: 3 mg/m^3	TWA: 2 mg/m^3	TWA: 2 mg/m^3
XYLENE	TWA: 100 ppm STEL: 150 ppm	TWA: 435 mg/m^3 TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m^3	TWA: 434 mg/m^3 TWA: 100 ppm STEL: 150 ppm STEL: 651 mg/m^3	TWA: 100 ppm TWA: 435 mg/m^3 STEL: 150 ppm STEL: 650 mg/m^3	TWA: 435 mg/m^3 TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m^3
N-BUTANOL (SKIN)	TWA: 20 ppm	Skin Ceiling: 50 ppm Ceiling: 150 mg/m^3 TWA: 100 ppm TWA: 300 mg/m^3	Ceiling: 152 mg/m^3 Ceiling: 50 ppm Skin	TWA: 20 ppm	Peak: 150 mg/m^3 Peak: 50 ppm
ETHYL BENZENE	TWA: 100 ppm STEL: 125 ppm	TWA: 435 mg/m^3 TWA: 100 ppm STEL: 545 mg/m^3 STEL: 125 ppm	TWA: 434 mg/m^3 TWA: 100 ppm STEL: 125 ppm STEL: 543 mg/m^3	TWA: 100 ppm TWA: 435 mg/m^3 STEL: 125 ppm STEL: 540 mg/m^3	TWA: 100 ppm TWA: 435 mg/m^3 STEL: 125 ppm STEL: 545 mg/m^3
ALUMINUM OXIDES	TWA: 1 mg/m^3	TWA: 10 mg/m^3 TWA: 5 mg/m^3 TWA: 15 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3
TRIETHYLENE TETRAMINE				TWA: 3 mg/m^3 TWA: 0.5 ppm Skin	

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Skin Protection	Lightweight protective clothing, Apron, Impervious gloves
Eye/face Protection	Goggles. If splashes are likely to occur, wear face-shield.
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

Flash Point	28°C / 82.0°F	**Method**	Pensky Martens - Closed Cup
Boiling Point/Range	116 - 142°C / 241.0 - 288.0°F	**Upper Exposure Limits**	No information available
Lower Exposure Limits	No information available	**Evaporation Rate**	No information available
Vapour Pressure	No information available	**Vapour Density**	No information available
Specific Gravity	1.68147	**Density**	13.99237
VOC Content (lbs/gal)	2.944	**% Volatile by Weight**	21.0420
% Volatile by Volume	41.8470		

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	**Conditions to Avoid**	Heat, flames and sparks. Epoxy constituents.
Incompatible Products	Strong oxidizing agents. Bases. Acids. Cleaning solutions such as Chromerge and Aqua Regia. Water, alcohols, amines, strong bases, metal components, surface active materials.	**Possibility of Hazardous Reactions**	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
BARIUM SULFATE (TOTAL DUST)	7727-43-7	26.1327	1.0
XYLENE	1330-20-7	10.09647	1.0
N-BUTANOL (SKIN)	71-36-3	8.6023	1.0
ETHYL BENZENE	100-41-4	2.343602	0.1

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product contains the following HAPs:
Component
XYLENE
ETHYL BENZENE

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 of 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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MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

Potential Health Effects

Principle Routes of Exposure Eye contact, Inhalation, Skin contact.

Acute Effects

Eyes	Moderately irritating to the eyes.
Skin	Irritating to skin. May cause sensitization by skin contact.
Inhalation	Irritating to respiratory system.
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.

Target Organ Effects
Central nervous system, Central Vascular System, Eyes, Kidney, Liver, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
TALC (RESPIRABLE DUST)	14807-96-6	33.6458
BISPHENOL A TYPE EPOXY RESIN	67924-34-9	26.8551
METHYL ISOBUTYL KETONE	108-10-1	15.335
BISPHENOL A TYPE EPOXY RESIN	25085-99-8	11.4488
XYLENE	1330-20-7	10.69352
ETHYL BENZENE	100-41-4	0.4038322

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 (CO2) - Foam - Dry chemical

Hazardous Decomposition Products Oxides of carbon, hydrocarbons. Aldehydes.

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.

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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)
TALC (RESPIRABLE DUST)	TWA: 2 mg/m^3	TWA: 2 mg/m^3	TWA: 3 mg/m^3	TWA: 2 mg/m^3	TWA: 2 mg/m^3
METHYL ISOBUTYL KETONE	TWA: 50 ppm STEL: 75 ppm	TWA: 205 mg/m^3 TWA: 50 ppm STEL: 300 mg/m^3 STEL: 75 ppm TWA: 100 ppm TWA: 410 mg/m^3	TWA: 205 mg/m^3 TWA: 50 ppm STEL: 307 mg/m^3 STEL: 75 ppm	TWA: 205 mg/m^3 TWA: 50 ppm STEL: 75 ppm	TWA: 50 ppm TWA: 205 mg/m^3 STEL: 307 mg/m^3 STEL: 75 ppm
XYLENE	TWA: 100 ppm STEL: 150 ppm	TWA: 435 mg/m^3 TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m^3	TWA: 434 mg/m^3 TWA: 100 ppm STEL: 150 ppm STEL: 651 mg/m^3	TWA: 100 ppm TWA: 435 mg/m^3 STEL: 150 ppm STEL: 650 mg/m^3	TWA: 435 mg/m^3 TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m^3
ETHYL BENZENE	TWA: 100 ppm STEL: 125 ppm	TWA: 435 mg/m^3 TWA: 100 ppm STEL: 545 mg/m^3 STEL: 125 ppm	TWA: 434 mg/m^3 TWA: 100 ppm STEL: 125 ppm STEL: 543 mg/m^3	TWA: 100 ppm TWA: 435 mg/m^3 STEL: 125 ppm STEL: 540 mg/m^3	TWA: 100 ppm TWA: 435 mg/m^3 STEL: 125 ppm STEL: 545 mg/m^3

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

Flash Point	18°C / 64.0°F	**Method**	Pensky Martens - Closed Cup
Boiling Point/Range	114 - 142°C / 237.0 - 288.0°F	**Upper Exposure Limits**	No information available
Lower Exposure Limits	No information available	**Evaporation Rate**	No information available
Vapour Pressure	No information available	**Vapour Density**	No information available
Specific Gravity	1.28267	**Density**	10.67371
VOC Content (lbs/gal)	2.896	**% Volatile by Weight**	27.1250
% Volatile by Volume	42.0116		

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	**Conditions to Avoid**	Heat, flames and sparks. Amines.
Incompatible Products	Strong oxidizing agents. Bases. Acids. Amines.	**Possibility of Hazardous Reactions**	None under normal processing

13. DISPOSAL CONSIDERATIONS

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16. OTHER INFORMATION

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
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XYLENE	1330-20-7	10.69352	1.0
ETHYL BENZENE	100-41-4	0.4038322	0.1

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
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Component
METHYL ISOBUTYL KETONE
XYLENE
ETHYL BENZENE

HMIS **Health** 2 **Flammability** 3 **Reactivity** 1

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