



Material Safety Data Sheet

Preparation Date: 30-Dec-2009

Revision Date: 29-Dec-2009

Revision Number: 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code S239-0000A
Trade Name CHEMTREAD CLEAR
Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

CAUSES SKIN AND EYE BURNS.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
HARMFUL IF INHALED.
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.

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.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available

Interactions with Other Chemicals Use of alcoholic beverages may enhance toxic effects.

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
EPOXY RESIN	28064-14-4	60 - 100
BENZYL ALCOHOL	100-51-6	6.1648

3. COMPOSITION/INFORMATION ON INGREDIENTS

NONYLPHENOL	84852-15-3	1 - 5
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4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes.
Skin Contact	Wash off immediately with soap and plenty of water.
Ingestion	If swallowed, do not induce vomiting. Get medical attention immediately.
Inhalation	Move to fresh air. Oxygen or artificial respiration if needed.

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. Contact with water may cause violent frothing. Use: Carbon dioxide (CO ₂) - Foam - Dry chemical
Hazardous Decomposition Products	Oxides of carbon, hydrocarbons. Oxides of nitrogen. Aldehydes. Ammonia. Ketones. Nitric acid, nitrosamine. Phenolics. Silicon.

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.

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.
Other Information	Not applicable

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

Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

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	Not applicable
Boiling Point/Range	No information available.0.0
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	1.17457
Density	9.77417
VOC Content (lbs/gal)	.064
% Volatile by Weight	.6490
% Volatile by Volume	.7364

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	Conditions to Avoid	Heat, flames and sparks. Epoxy constituents. Contact with water liberates toxic gas (methanol).
Incompatible Products	Strong oxidizing agents. Bases. Acids. Hypochlorites. Nitrous acid and other nitrosating agents. Peroxides. Amines.	Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
BENZYL ALCOHOL	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
NONYLPHENOL	580 mg/kg (Rat)	2031 mg/kg (Rabbit)	

Irritation

No information available

Corrosivity No information available
Sensitization No information available

Chronic Toxicity

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Mutagenic Effects No information available
Reproductive Effects No information available
Developmental Effects No information available
Teratogenicity No information available
Target Organ Effects No information available
Endocrine Disruptor Information No information available

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
NONYLPHENOL	Group II Chemical	Medium Exposure Concern	

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
BENZYL ALCOHOL	EC50 = 35 mg/L 3 h	LC50= 460 mg/L Pimephales promelas 96 h LC50= 10 mg/L Lepomis macrochirus 96 h	EC50 = 63.7 mg/L 5 min EC50 = 63.7 mg/L 15 min EC50 = 71.4 mg/L 30 min EC50 = 50 mg/L 5 min	EC50 = 23 mg/L 48 h
NONYLPHENOL	EC50 = 0.41 mg/L 96 h	LC50= 0.135 mg/L Pimephales promelas 96 h		EC50 = 0.14 mg/L 48 h EC50 = 0.140 mg/L 48 h

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

14. TRANSPORT INFORMATION

DOT Ground Transportation Only. Call TNEMEC Traffic Department - 816-474-3400 for other modes of Transportation.
Proper Shipping Name UN3066, PAINT, 8, PGIII, ERG 153

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not Comply
CHINA	Does not Comply
ENCS	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

U.S. Federal Regulations

SARA 313

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CERCLA

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
BENZYL ALCOHOL	X		X		
NONYLPHENOL	X		X		

Other International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials
E Corrosive material



Component	NPRI
NONYLPHENOL	Part 1, Group 1 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary: No information available

HMIS Health 0 Flammability 0 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.

End of MSDS



Material Safety Data Sheet

Preparation Date: 04-Jan-2010

Revision Date: 29-Dec-2009

Revision Number: 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code S239-0286B
Trade Name S239/S286 CONVERTER
Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

CAUSES SKIN AND EYE BURNS.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
HARMFUL IF INHALED.
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.

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.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available

Interactions with Other Chemicals Use of alcoholic beverages may enhance toxic effects.

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
BENZYL ALCOHOL	100-51-6	31.1117
MODIFIED ALIPHATIC AMINE		10 - 30

3. COMPOSITION/INFORMATION ON INGREDIENTS

CYCLOHEXANAMINE	1761-71-3	10 - 30
POLYOXYPROPYLENETRIAMINE	39423-51-3	10 - 30
NONYLPHENOL	84852-15-3	1 - 5

4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes.
Skin Contact	Wash off immediately with soap and plenty of water.
Ingestion	If swallowed, do not induce vomiting. Get medical attention immediately.
Inhalation	Move to fresh air. Oxygen or artificial respiration if needed.

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. Contact with water may cause violent frothing. Use: Carbon dioxide (CO ₂) - Foam - Dry chemical
Hazardous Decomposition Products	Oxides of carbon, hydrocarbons. Oxides of nitrogen. Aldehydes. Ammonia. Ketones. Nitric acid, nitrosamine. Phenolics.

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.

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.
Other Information	Not applicable

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

Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

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

Not applicable

Method

Pensky Martens - Closed Cup

Boiling Point/Range

No information available

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

1.01272

Density

8.42732

VOC Content (lbs/gal)

.262

% Volatile by Weight

3.1110

% Volatile by Volume

3.0136

10. STABILITY AND REACTIVITY

Chemical stability

Stable.

Conditions to Avoid

Heat, flames and sparks. Epoxy constituents.

Incompatible Products

Strong oxidizing agents. Bases. Acids. Hypochlorites. Nitrous acid and other nitrosating agents. Peroxides.

Possibility of Hazardous Reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
BENZYL ALCOHOL	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
CYCLOHEXANAMINE	1000 mg/kg (Rat)		
NONYLPHENOL	580 mg/kg (Rat)	2031 mg/kg (Rabbit)	

Irritation

No information available

Corrosivity No information available
Sensitization No information available

Chronic Toxicity

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Mutagenic Effects No information available
Reproductive Effects No information available
Developmental Effects No information available
Teratogenicity No information available
Target Organ Effects No information available
Endocrine Disruptor Information No information available

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
NONYLPHENOL	Group II Chemical	Medium Exposure Concern	

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
BENZYL ALCOHOL	EC50 = 35 mg/L 3 h	LC50= 460 mg/L Pimephales promelas 96 h LC50= 10 mg/L Lepomis macrochirus 96 h	EC50 = 63.7 mg/L 5 min EC50 = 63.7 mg/L 15 min EC50 = 71.4 mg/L 30 min EC50 = 50 mg/L 5 min	EC50 = 23 mg/L 48 h
CYCLOHEXANAMINE		LC50 46 - 100 mg/L Leuciscus idus 96 h		
NONYLPHENOL	EC50 = 0.41 mg/L 96 h	LC50= 0.135 mg/L Pimephales promelas 96 h		EC50 = 0.14 mg/L 48 h EC50 = 0.140 mg/L 48 h

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.

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14. TRANSPORT INFORMATION

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15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not Comply
CHINA	Does not Comply
ENCS	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

U.S. Federal Regulations

SARA 313

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CERCLA

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
BENZYL ALCOHOL	X		X		
NONYLPHENOL	X		X		

Other International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials
E Corrosive material



Component	NPRI
NONYLPHENOL	Part 1, Group 1 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary: No information available

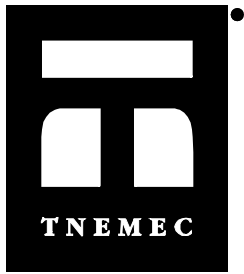
HMIS Health 3 Flammability 0 Reactivity 1

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End of MSDS



Material Safety Data Sheet

Preparation Date: 30-Dec-2009

Revision Date: 29-Dec-2009

Revision Number: 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code S239-SC01C
Trade Name CHEMTREAD AGGREGATE
Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

HARMFUL BY INHALATION.
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 May cause slight 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

Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure.)

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Central nervous system. Kidney disorders. Liver disorders. Skin disorders.

Interactions with Other Chemicals No information available. Use of alcoholic beverages may enhance toxic effects.

Potential Environmental Effects See Section 12 for additional Ecological information

Target Organ Effects Blood, Central nervous system, Central Vascular System, Eyes, Kidney, Liver, Lungs, Nasal Cavities, Prostate, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	56.0747
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	37.3831
GLASS OXIDE	65997-17-3	1 - 5

3. COMPOSITION/INFORMATION ON INGREDIENTS

AMORPHOUS SILICA	7631-86-9	1 - 5
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.2336

4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes.
Skin Contact	Wash off immediately with soap and plenty of water.
Ingestion	If swallowed, do not induce vomiting. Get medical attention immediately.
Inhalation	Move to fresh air. Oxygen or artificial respiration if needed.

5. FIRE-FIGHTING MEASURES

Flammable Properties	No information available.
Suitable Extinguishing Media	Foam, carbon dioxide, and dry chemical.
Hazardous Decomposition Products	No information available

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

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	Shovel or sweep up.
Other Information	Not applicable

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 container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
CRYSTALLINE SILICA (QUARTZ)	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.10 mg/m ³	TWA: 0.1 mg/m ³

CRYSTALLINE SILICA (QUARTZ)	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.10 mg/m ³	TWA: 0.1 mg/m ³
GLASS OXIDE	TWA: 1 fiber/cm ³ TWA: 5 mg/m ³ TWA: 0.5 mg/m ³ TWA: 0.05 mg/m ³ TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.02 mg/m ³ TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³	Ceiling: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 1 fibre/cm ³ TWA: 5 mg/m ³ TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³ TWA: 0.5 mg/m ³ TWA: 0.02 mg/m ³ TWA: 0.025 mg/m ³ TWA: 0.1 mg/m ³ STEL: 10 mg/m ³	TWA: 1 fibres/cm ³ TWA: 0.2 mg/m ³ TWA: 5 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³ TWA: 0.05 mg/m ³ STEL: 0.6 mg/m ³ STEL: 10 mg/m ³	TWA: 0.15 mg/m ³ TWA: 0.5 mg/m ³ TWA: 0.1 mg/m ³ TWA: 0.2 mg/m ³ TWA: 5 mg/m ³ TWA: 0.002 mg/m ³ TWA: 0.002 mg/m ³ STEL: 10 mg/m ³
CRYSTALLINE SILICA (QUARTZ)	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.10 mg/m ³	TWA: 0.1 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

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

Flash Point	Not applicable
Method	Pensky Martens - Closed Cup
Boiling Point/Range	No information available
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	2.35477
Density	19.59522
VOC Content (lbs/gal)	.000
% Volatile by Weight	.0000
% Volatile by Volume	.0000

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

11. TOXICOLOGICAL INFORMATION

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
AMORPHOUS SILICA	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		

Irritation No information available
Corrosivity No information available
Sensitization No information available

Chronic Toxicity

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	ACGIH	IARC	NTP	OSHA	Mexico
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
GLASS OXIDE		Group 1 Group 2A			
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	

Mutagenic Effects No information available
Reproductive Effects No information available
Developmental Effects No information available
Teratogenicity No information available
Target Organ Effects Blood, Central nervous system, Central Vascular System, Eyes, Kidney, Liver, Lungs, Nasal Cavities, Prostate, Respiratory system, Skin.
Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

(Bad file name or number)

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
GLASS OXIDE		LC50 5.6 - 7.4 µg/L Pimephales promelas 96 h LC50 9.4 - 9.7 µg/L Pimephales promelas 96 h LC50 24.2 - 48.4 µg/L Lepomis macrochirus 96 h		EC50 = 0.9 µg/L 48 h LC50 = 5 µg/L 96 h LC50 1.4 - 2.3 µg/L 96 h
AMORPHOUS SILICA	EC50 = 440 mg/L 72 h	LC50= 5000 mg/L Brachydanio rerio 96 h		EC50 = 7600 mg/L 48 h

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

14. TRANSPORT INFORMATION

DOT Ground Transportation Only. Call TNEMEC Traffic Department - 816-474-3400 for other modes of Transportation.

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
CHINA	Complies
ENCS	Does not Comply
KECL	Complies
PICCS	Does not Comply
AICS	Complies

U.S. Federal RegulationsSARA 313SARA 311/312 Hazardous Categorization

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
GLASS OXIDE		X		

CERCLAU.S. State RegulationsCalifornia Proposition 65

This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen
GLASS OXIDE	65997-17-3	Carcinogen
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
GLASS OXIDE	X	X	X	X	X
AMORPHOUS SILICA	X		X		
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X

Other International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2A Very toxic materials

**Legend**

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary No information available

HMIS Health 1 Flammability 0 Reactivity 0

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.

End of MSDS