



Material Safety Data Sheet

Preparation Date: 04-Jan-2010

Revision Date: 29-Dec-2009

Revision Number: 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code F436-5021A
Trade Name PERMA-SHIELD FR GRAY
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!

COMBUSTIBLE 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.

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. 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.)

See Section 11 for additional Toxicological information.

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

Interactions with Other Chemicals 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 %
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30
MODIFIED POLYAMINE		10 - 30
FURFURYL ALCOHOL	98-00-0	15.7659
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	11.5755
BENZYL ALCOHOL	100-51-6	10.1831
M-XYLENEDIAMINE	1477-55-0	5 - 10
SILICON DIOXIDE/ALUMINUM OXIDE	66402-68-4	1 - 5
FIBROUS GLASS	65997-17-3	1 - 5
AMORPHOUS SILICA	7631-86-9	1 - 5
AMORPHOUS SILICA	7631-86-9	1 - 5
ALUMINUM OXIDES	1344-28-1	1 - 5
PHENOL (SKIN)	108-95-2	1.491
BISPHENOL A TYPE EPOXY RESIN	25036-25-3	1 - 5
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.2411

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	Combustible material.
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. Ammonia.

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.

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

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
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
FURFURYL ALCOHOL	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 40 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 60 mg/m ³ Skin TWA: 200 mg/m ³ TWA: 50 ppm	TWA: 40 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 60 mg/m ³ Skin	TWA: 10 ppm TWA: 40 mg/m ³ STEL: 60 mg/m ³ STEL: 15 ppm Skin	TWA: 10 ppm TWA: 40 mg/m ³ STEL: 15 ppm STEL: 60 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
M-XYLENEDIAMINE	Skin Ceiling: 0.1 mg/m ³	Skin Ceiling: 0.1 mg/m ³	Ceiling: 0.1 mg/m ³ Skin	CEV: 0.1 mg/m ³ Skin	Peak: 0.1 mg/m ³
SILICON DIOXIDE/ALUMINUM OXIDE	TWA: 5 mg/m ³ TWA: 0.2 mg/m ³		TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 0.5 fibres/cm ³ TWA: 5 mg/m ³ TWA: 0.2 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³ TWA: 0.2 mg/m ³ STEL: 10 mg/m ³
FIBROUS GLASS	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: 0.02 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 TWA: 0.5 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 STEL: 10 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
PHENOL (SKIN)	TWA: 5 ppm Skin	TWA: 19 mg/m ³ TWA: 5 ppm Skin	TWA: 19 mg/m ³ TWA: 5 ppm Skin	TWA: 5 ppm TWA: 19 mg/m ³ Skin	TWA: 19 mg/m ³ TWA: 5 ppm STEL: 10 ppm STEL: 38 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

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	77°C / 170.0°F
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	1.46958
Density	12.22911
VOC Content (lbs/gal)	2.100
% Volatile by Weight	17.1730
% Volatile by Volume	22.5535

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
TITANIUM DIOXIDE (TOTAL DUST)	10000 mg/kg (Rat)		
FURFURYL ALCOHOL	177 mg/kg (Rat)	3825 mg/kg (Rat) 400 mg/kg (Rabbit)	233 ppm (Rat) 4 h
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
BENZYL ALCOHOL	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
M-XYLENEDIAMINE	930 mg/kg (Rat)	2000 mg/kg (Rabbit)	700 ppm (Rat) 1 h
AMORPHOUS SILICA	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h
AMORPHOUS SILICA	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h
ALUMINUM OXIDES	5000 mg/kg (Rat)		
PHENOL (SKIN)	317 mg/kg (Rat)	525 mg/kg (Rat) 630 mg/kg (Rabbit)	316 mg/m ³ (Rat) 4 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
TITANIUM DIOXIDE (TOTAL DUST)		Group 2B		X	
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
FIBROUS GLASS		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

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
FURFURYL ALCOHOL	Group III Chemical		
BISPHENOL A TYPE EPOXY RESIN	Group III Chemical		

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
FURFURYL ALCOHOL		LC50= 32 mg/L Pimephales promelas 96 h		EC50 = 328 mg/L 24 h
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
FIBROUS GLASS		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
AMORPHOUS SILICA	EC50 = 440 mg/L 72 h	LC50= 5000 mg/L Brachydanio rerio 96 h		EC50 = 7600 mg/L 48 h
PHENOL (SKIN)	EC50 = 150 mg/L 96 h	LC50= 24 mg/L Pimephales promelas 96 h LC50= 8.9 mg/L Oncorhynchus mykiss 96 h LC50= 23.88 mg/L Lepomis macrochirus 96 h LC50 5 - 12 mg/L Oncorhynchus mykiss 96 h LC50= 40 mg/L Poecilia reticulata 96 h LC50= 27.8 mg/L Brachydanio rerio 96 h	EC50 = 28.8 mg/L 5 min EC50 = 31.6 mg/L 15 min EC50 = 23.28 mg/L 5 min EC50 = 25.61 mg/L 15 min EC50 21 - 36 mg/L 30 min	EC50 = 23.0 mg/L 48 h LC50 = 13 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 PAINT IN OIL

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	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

Component	CAS-No	Weight %	SARA 313 - Threshold Values
PHENOL (SKIN)	108-95-2	1.491	1.0

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

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
SILICON DIOXIDE/ALUMINUM OXIDE		X		
FIBROUS GLASS		X		
PHENOL (SKIN)	1000 lb	X	X	X

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
PHENOL (SKIN)	1000 lb	1000 lb

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

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

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
TITANIUM DIOXIDE (TOTAL DUST)	X	X	X		X
FURFURYL ALCOHOL	X	X	X		X
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
BENZYL ALCOHOL	X		X		
M-XYLENEDIAMINE	X	X	X		X
SILICON DIOXIDE/ALUMINUM OXIDE		X	X		X
FIBROUS GLASS	X	X	X	X	X
AMORPHOUS SILICA	X		X		
AMORPHOUS SILICA	X		X		
ALUMINUM OXIDES	X	X	X		X
PHENOL (SKIN)	X	X	X	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

- D2B Toxic materials
- E Corrosive material



Component	NPRI
FURFURYL ALCOHOL	Part 5 Substance
ALUMINUM OXIDES	Part 1, Group 1 Substance (fibrous form)
PHENOL (SKIN)	Part 1, Group 1 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary: No information available

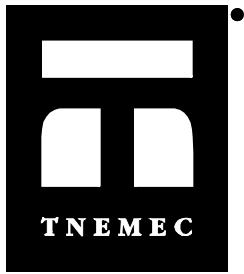
HMIS Health 0 Flammability 0 Reactivity 1

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 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



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Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNEMEC REGULATORY DEPT: 816-474-3400

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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.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.

Potential Health Effects

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

Acute Effects

Eyes Irritating to 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.

See Section 11 for additional Toxicological information.

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

Interactions with Other Chemicals 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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
BISPHENOL A TYPE EPOXY RESIN	25085-99-8	60 - 100
FURFURYL ALCOHOL	98-00-0	5.8905
AMORPHOUS SILICA	7631-86-9	1 - 5
MINERAL FIBER	65997-17-3	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	Combustible material.
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. 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.
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

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
FURFURYL ALCOHOL	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 40 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 60 mg/m ³ Skin TWA: 200 mg/m ³ TWA: 50 ppm	TWA: 40 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 60 mg/m ³ Skin	TWA: 10 ppm TWA: 40 mg/m ³ STEL: 60 mg/m ³ STEL: 15 ppm Skin	TWA: 10 ppm TWA: 40 mg/m ³ STEL: 15 ppm STEL: 60 mg/m ³
MINERAL FIBER	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 TWA: 0.5 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: 0.01 mg/m ³ TWA: 0.002 mg/m ³ STEL: 10 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	77°C / 170.0°F
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	1.18513
Density	9.86206
VOC Content (lbs/gal)	.581
% Volatile by Weight	5.8910
% Volatile by Volume	6.1735

10. STABILITY AND REACTIVITY

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
FURFURYL ALCOHOL	177 mg/kg (Rat)	3825 mg/kg (Rat) 400 mg/kg (Rabbit)	233 ppm (Rat) 4 h
AMORPHOUS SILICA	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h

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
MINERAL FIBER		Group 1 Group 2A			

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

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
BISPHENOL A TYPE EPOXY RESIN	Group III Chemical		
FURFURYL ALCOHOL	Group III Chemical		

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
FURFURYL ALCOHOL		LC50= 32 mg/L Pimephales promelas 96 h		EC50 = 328 mg/L 24 h
AMORPHOUS SILICA	EC50 = 440 mg/L 72 h	LC50= 5000 mg/L Brachydanio rerio 96 h		EC50 = 7600 mg/L 48 h

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
MINERAL FIBER		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

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 PAINT IN OIL

15. REGULATORY INFORMATION

International Inventories

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

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

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
MINERAL FIBER		X		

CERCLA

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65
MINERAL FIBER	65997-17-3	Carcinogen

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
FURFURYL ALCOHOL	X	X	X		X
AMORPHOUS SILICA	X		X		
MINERAL FIBER	X	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
 B3 Combustible liquid
 D2B Toxic materials



Component	NPRI
FURFURYL ALCOHOL	Part 5 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary: No information available

HMIS Health 2 Flammability 2 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