



Material Safety Data Sheet

Print Date 05-May-2011

Revision Date 05-May-2011

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Common name	SERIES N446 PART A
Product code	N446-0000A
Trade name	PERMASHIELD CLEAR
Product Class	AROMATIC ISOCYANATE PAINT
Manufacturer	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency telephone	800-535-5053 (INFOTRAC) - TNEMEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

FLAMMABLE LIQUID AND VAPOR.
HARMFUL OR FATAL IF SWALLOWED.
HARMFUL IF INHALED.
MAY CAUSE ALLERGIC RESPIRATORY REACTION; EFFECTS MAY BE PERMANENT.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
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	Moderately irritating to the eyes. Risk of serious damage to eyes.
Skin	Irritating to skin. May cause sensitization by skin contact.
Inhalation	Irritating to respiratory system. May cause allergic respiratory reaction. 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. Skin disorders. Respiratory disorders.

Interactive effects 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 (CVS), Eyes, Lungs, Peripheral Nervous System (PNS), Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
TALC (RESPIRABLE DUST)	14807-96-6	30 - 60
TOLUENE DIISOCYANATE (TDI) POL		10 - 30
METHYL N-AMYL KETONE	110-43-0	5 - 10
TOLUENE DIISOCYANATE (TID) POL		5 - 10
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	5 - 10
POLYMERIZED SOLVENT NAPHTHA	68132-02-5	1 - 5
AROMATIC HYDROCARBON MIXTURE	64742-95-6	1 - 5
ETHYL ACETATE	141-78-6	1 - 5
1,2,4-TRIMETHYLBENZENE	95-63-6	1 - 5
1,3,5-TRIMETHYLBENZENE	108-67-8	0.1 - 1
ACETONE	67-64-1	0.1 - 1
XYLENE	1330-20-7	0.1 - 1
TOLUENE DIISOCYANATE (TDI) MONOMER	584-84-9	0.1 - 1
ETHYL BENZENE	100-41-4	0.1 - 1

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	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 ₂) - Foam - Dry chemical
Hazardous decomposition products	Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide. Oxides of sulphur.
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

Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

Storage

Close container after each use. Keep away from heat, sparks and flame. VAPORS MAY CAUSE FLASH FIRE. Use only in an area containing flame proof equipment. 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)	: 2 mg/m ³ TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)	: 2 mg/m ³ TWA (<1% Crystalline silica, containing no Asbestos, respirable dust)	TWA: 3 mg/m ³ TWAEV (respirable dust)	TWA: 2 mg/m ³ TWA (containing no Asbestos and <1% Crystalline silica, respirable)	: 2 mg/m ³ TWA (respirable fraction)
METHYL N-AMYL KETONE	: 50 ppm TWA	: 100 ppm TWA; 465 mg/m ³ TWA	TWA: 50 ppm TWAEV; 233 mg/m ³ TWAEV	TWA: 25 ppm TWA; 115 mg/m ³ TWA	: 50 ppm TWA; 235 mg/m ³ TWA : 100 ppm STEL; 465 mg/m ³ STEL
CRYSTALLINE SILICA (QUARTZ)	: 0.025 mg/m ³ TWA (respirable fraction)	: 0.1 mg/m ³ TWA (respirable dust)	TWA: 0.1 mg/m ³ TWAEV (respirable dust)	TWA: 0.10 mg/m ³ TWA (designated substance regulation, respirable)	: 0.1 mg/m ³ TWA (respirable fraction)
ETHYL ACETATE	: 400 ppm TWA	: 400 ppm TWA; 1400 mg/m ³ TWA	TWA: 400 ppm TWAEV; 1440 mg/m ³ TWAEV	TWA: 400 ppm TWA	: 400 ppm TWA; 1400 mg/m ³ TWA
1,2,4-TRIMETHYLBENZENE	TWA: 25 ppm		TWA: 25 ppm TWA: 123 mg/m ³	TWA: 25 ppm TWA: 123 mg/m ³	TWA: 125 mg/m ³ TWA: 25 ppm STEL: 170 mg/m ³ STEL: 35 ppm
1,3,5-TRIMETHYLBENZENE	TWA: 25 ppm		TWA: 25 ppm TWA: 123 mg/m ³	TWA: 25 ppm TWA: 123 mg/m ³	TWA: 125 mg/m ³ TWA: 25 ppm STEL: 170 mg/m ³ STEL: 35 ppm
ACETONE	: 500 ppm TWA : 750 ppm STEL	: 750 ppm TWA; 1800 mg/m ³ TWA : 2400 mg/m ³ STEL (The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors); 1000 ppm STEL : 1000 ppm TWA; 2400 mg/m ³ TWA	TWA: 500 ppm TWAEV; 1190 mg/m ³ TWAEV STEL: 1000 ppm STEV; 2380 mg/m ³ STEV	TWA: 500 ppm TWA STEL: 750 ppm STEL	: 1000 ppm TWA; 2400 mg/m ³ TWA : 1260 ppm STEL; 3000 mg/m ³ STEL
XYLENE	: 100 ppm TWA : 150 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 150 ppm STEL; 655 mg/m ³ STEL	TWA: 100 ppm TWAEV; 434 mg/m ³ TWAEV STEL: 150 ppm STEV; 651 mg/m ³ STEV	TWA: 100 ppm TWA STEL: 150 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 150 ppm STEL; 655 mg/m ³ STEL

TOLUENE DIISOCYANATE (TDI) MONOMER	: 0.005 ppm TWA : 0.02 ppm STEL	: 0.005 ppm TWA; 0.04 mg/m ³ TWA : 0.02 ppm STEL; 0.15 mg/m ³ STEL : 0.02 ppm Ceiling; 0.14 mg/m ³ Ceiling	TWA: 0.005 ppm TWAEV; 0.036 mg/m ³ TWAEV STEL: 0.02 ppm STEV; 0.14 mg/m ³ STEV	TWA: 0.005 ppm TWA (designated substance regulation, listed under Isocyanates, organic compounds); 0.005 ppm TWA (applies to workplaces to which the designated substance regulation does not apply) STEL: 0.02 ppm STEL CEV: 0.02 ppm Ceiling (designated substances regulation)	: 0.02 ppm TWA; 0.14 mg/m ³ TWA
ETHYL BENZENE	: 100 ppm TWA : 125 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 125 ppm STEL; 545 mg/m ³ STEL	TWA: 100 ppm TWAEV; 434 mg/m ³ TWAEV STEL: 125 ppm STEV; 543 mg/m ³ STEV	TWA: 100 ppm TWA STEL: 125 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 125 ppm STEL; 545 mg/m ³ STEL

Engineering measures

Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Skin protection

Lightweight protective clothing, Apron, Impervious gloves

Eye/face protection

Safety glasses with side-shields

Respiratory protection

INDIVIDUALS WITH LUNG OR BREATHING PROBLEMS OR PRIOR REACTION TO ISOCYANATES MUST NOT BE EXPOSED TO VAPOR OR SPRAY MIST. Do not breathe vapor or spray mist. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. An airline respirator (TC 19C NIOSH/MSHA) is recommended. A vapor-particulate respirator (TC 23C NIOSH/MSHA) may be appropriate where air monitoring demonstrates vapors are less than ten times the applicable exposure limits and the isocyanate concentration is less than its applicable exposure limit. The use of an air-supplied respirator is mandatory whenever the airborne concentration of isocyanate monomer is unknown.

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	29°C / 84.0°F
Boiling range	76 - 154°C / 168.0 - 309.0°F
Upper explosion limit	No information available
Lower explosion limit	No information available
Evaporation rate	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.33368 g/cm ³
Density	11.09824 lbs/gal
Volatile organic compounds (VOC) content	2.619 lbs/gal
Volatile by weight	23.9170 %
Volatile by volume	37.3296 %

10. STABILITY AND REACTIVITY

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Chemical stability	Stable.	Conditions to avoid	Heat, flames and sparks. Amines.
Incompatible products	Strong oxidizing agents. Bases. Acids. Alkalines. Amines. Water, alcohols, amines, strong bases, metal components, surface active materials.	Possibility of hazardous reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
METHYL N-AMYL KETONE	1670 mg/kg (Rat)	12600 µL/kg (Rabbit)	
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
AROMATIC HYDROCARBON MIXTURE	8400 mg/kg (Rat)	2000 mg/kg (Rabbit)	3400 ppm (Rat) 4 h 5.2 mg/L (Rat) 4 h
ETHYL ACETATE	5620 mg/kg (Rat)	20 mL/kg (Rabbit) 18000 mg/kg (Rabbit)	
1,2,4-TRIMETHYLBENZENE	3400 mg/kg (Rat)	3160 mg/kg (Rabbit)	18 g/m ³ (Rat) 4 h
1,3,5-TRIMETHYLBENZENE	5000 mg/kg (Rat)		24 g/m ³ (Rat) 4 h
ACETONE	5800 mg/kg (Rat)		
XYLENE	4300 mg/kg (Rat)	1700 mg/kg (Rabbit)	5000 ppm (Rat) 4 h 47635 mg/L (Rat) 4 h
TOLUENE DIISOCYANATE (TDI) MONOMER	5800 mg/kg (Rat)	16 mL/kg (Rabbit)	14 ppm (Rat) 4 h 0.1 mg/L (Rat) 4 h 13.9 ppm (Rat) 4 h 66 ppm (Rat) 1 h
ETHYL BENZENE	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 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
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
TOLUENE DIISOCYANATE (TDI) MONOMER		Group 2B		X	
ETHYL BENZENE	A3	Group 2B		X	

Mutagenicity	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 (CVS), Eyes, Lungs, Peripheral Nervous System (PNS), Respiratory system, Skin.
Endocrine Disruptor Information	No information available

12. ECOLOGICAL INFORMATION

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Ecotoxicity

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
TALC (RESPIRABLE DUST)		LC50> 100 g/L <i>Brachydanio rerio</i> 96 h		
METHYL N-AMYL KETONE		LC50 126-137 mg/L <i>Pimephales promelas</i> 96 h		
AROMATIC HYDROCARBON MIXTURE		LC50= 9.22 mg/L <i>Oncorhynchus mykiss</i> 96 h		EC50 = 6.14 mg/L 48 h
ETHYL ACETATE	EC50 = 3300 mg/L 48 h	LC50 220-250 mg/L <i>Pimephales promelas</i> 96 h LC50 352-500 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50= 484 mg/L <i>Oncorhynchus mykiss</i> 96 h	EC50 = 1180 mg/L 5 min EC50 = 5870 mg/L 15 min EC50 = 7400 mg/L 2 h EC50 = 1500 mg/L 15 min	EC50 = 560 mg/L 48 h
1,2,4-TRIMETHYLBENZENE		LC50 7.19-8.28 mg/L <i>Pimephales promelas</i> 96 h LC50= 7.72 mg/L <i>Pimephales promelas</i> 96 h		EC50 = 6.14 mg/L 48 h
1,3,5-TRIMETHYLBENZENE		LC50= 3.48 mg/L <i>Pimephales promelas</i> 96 h LC50= 7.72 mg/L <i>Pimephales promelas</i> 96 h		EC50 = 50 mg/L 24 h
ACETONE		LC50 4.74 - 6.33 mL/L <i>Oncorhynchus mykiss</i> 96 h LC50 6210 - 8120 mg/L <i>Pimephales promelas</i> 96 h LC50= 8300 mg/L <i>Lepomis macrochirus</i> 96 h	EC50 = 14500 mg/L 15 min	EC50 10294 - 17704 mg/L 48 h EC50 12600 - 12700 mg/L 48 h
XYLENE		LC50= 13.4 mg/L <i>Pimephales promelas</i> 96 h LC50 2.661-4.093 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50 13.5-17.3 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50 13.1-16.5 mg/L <i>Lepomis macrochirus</i> 96 h LC50= 19 mg/L <i>Lepomis macrochirus</i> 96 h LC50 7.711-9.591 mg/L <i>Lepomis macrochirus</i> 96 h LC50 23.53-29.97 mg/L <i>Pimephales promelas</i> 96 h LC50= 780 mg/L <i>Cyprinus carpio</i> 96 h LC50> 780 mg/L <i>Cyprinus carpio</i> 96 h LC50 30.26-40.75 mg/L <i>Poecilia reticulata</i> 96 h	EC50 = 0.0084 mg/L 24 h	EC50 = 3.82 mg/L 48 h LC50 = 0.6 mg/L 48 h
ETHYL BENZENE	EC50 = 4.6 mg/L 72 h EC50 > 438 mg/L 96 h EC50 2.6 - 11.3 mg/L 72 h EC50 1.7 - 7.6 mg/L 96 h	LC50 11.0-18.0 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50= 4.2 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50 7.55-11 mg/L <i>Pimephales promelas</i> 96 h LC50= 32 mg/L <i>Lepomis macrochirus</i> 96 h LC50 9.1-15.6 mg/L <i>Pimephales promelas</i> 96 h LC50= 9.6 mg/L <i>Poecilia reticulata</i> 96 h	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50 1.8 - 2.4 mg/L 48 h

13. DISPOSAL CONSIDERATIONS

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 UN1263,PAINT,3,PGIII,ERG 128

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 Does not Comply

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Component
 XYLENE
 TOLUENE DIISOCYANATE (TDI) MONOMER
 ETHYL BENZENE

United States of America Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
1,2,4-TRIMETHYLBENZENE	95-63-6	1 - 5	1.0 % de minimis concentration
XYLENE	1330-20-7	0.1 - 1	1.0 % de minimis concentration
TOLUENE DIISOCYANATE (TDI) MONOMER	584-84-9	0.1 - 1	0.1 % de minimis concentration 1.0 % de minimis concentration (includes only those chemicals that are specifically listed, Chemical Category N120)
ETHYL BENZENE	100-41-4	0.1 - 1	0.1 % de minimis concentration

SARA 311/312 Hazardous Categorization

Chronic Health Hazard yes
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
XYLENE	100 lb RQ			X
ETHYL BENZENE	1000 lb RQ	X	X	X

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
TOLUENE DIISOCYANATE (TDI) MONOMER		100 lb EPCRA RQ

United States of America State Regulations

California Prop. 65

This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen
TOLUENE DIISOCYANATE (TDI) MONOMER	584-84-9	Carcinogen
ETHYL BENZENE	100-41-4	Carcinogen

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
TALC (RESPIRABLE DUST)	X	X	X		X
METHYL N-AMYL KETONE	X	X	X		X
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
ETHYL ACETATE	X	X	X		X
1,2,4-TRIMETHYLBENZENE	X	X	X	X	X
1,3,5-TRIMETHYLBENZENE	X	X	X	X	X
ACETONE	X	X	X		X
XYLENE	X	X	X	X	X
TOLUENE DIISOCYANATE (TDI) MONOMER	X	X	X	X	X
ETHYL BENZENE	X	X	X	X	X

Other international regulations

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

WHMIS Classification

B2 Flammable liquid
D2A Very toxic materials



Component	NPRI
AROMATIC HYDROCARBON MIXTURE	Part 5 Substance
ETHYL ACETATE	Part 5 Substance
1,2,4-TRIMETHYLBENZENE	Part 1, Group 1 Substance; Part 5 Substance
XYLENE	Part 1, Group 1 Substance; Part 5 Substance
ETHYL BENZENE	Part 1, Group 1 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 05-May-2011

Revision Note No information available

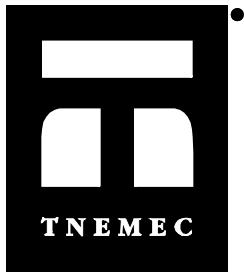
HMIS (Hazardous Material Information System) **Health** 3* **Flammability** 2 **Reactivity** 2

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



Material Safety Data Sheet

Print Date 27-May-2011

Revision Date 27-May-2011

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Common name	SERIES N446 PART B
Product code	N446-1221B
Trade name	PERMASHIELD BLACK
Product Class	MODIFIED POLYOL CATALYST PAINT
Manufacturer	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency telephone	800-535-5053 (INFOTRAC) - TNEMEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

HARMFUL IF INHALED.
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	Irritating to eyes.
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).

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Gastrointestinal tract. Liver disorders. Skin disorders. Respiratory disorders.

Interactive effects No information available

Potential environmental effects See Section 12 for additional Ecological Information

Target Organ Effects Gastrointestinal tract, Eyes, Liver, Lungs, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	10 - 30
IRON OXIDE FUME	1317-61-9	10 - 30
SILICON DIOXIDE/ALUMINUM OXIDE	66402-68-4	10 - 30
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.1 - 1
XYLENE	1330-20-7	0.1 - 1
ETHYL BENZENE	100-41-4	0.1 - 1
ORGANOTIN COMPOUND		0.1 - 1

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.
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

Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

Storage

Close container after each use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
CRYSTALLINE SILICA (QUARTZ)	: 0.025 mg/m ³ TWA (respirable fraction)	: 0.1 mg/m ³ TWA (respirable dust)	TWA: 0.1 mg/m ³ TWAEV (respirable dust)	TWA: 0.10 mg/m ³ TWA (designated substance regulation, respirable)	: 0.1 mg/m ³ TWA (respirable fraction)
IRON OXIDE FUME	TWA: 1 mg/m ³		TWA: 1 mg/m ³		TWA: 1 mg/m ³ STEL: 2 mg/m ³
SILICON DIOXIDE/ALUMINUM OXIDE	: 5 mg/m ³ TWA (as Zr) : 0.2 mg/m ³ TWA (as Mn)		TWA: 5 mg/m ³ TWAEV (as Zr) STEL: 10 mg/m ³ STEV (as Zr)	TWA: 5 mg/m ³ TWA (as Zr) TWA: 0.5 fibre/cm ³ TWA (length>5 microns, aspect ratio>= 3.1, respirable) TWA: 0.2 mg/m ³ TWA (as Mn) STEL: 10 mg/m ³ STEL (as Zr)	: 5 mg/m ³ TWA (as Zr) : 0.2 mg/m ³ TWA (as Mn) : 10 mg/m ³ STEL (as Zr)
CRYSTALLINE SILICA (QUARTZ)	: 0.025 mg/m ³ TWA (respirable fraction)	: 0.1 mg/m ³ TWA (respirable dust)	TWA: 0.1 mg/m ³ TWAEV (respirable dust)	TWA: 0.10 mg/m ³ TWA (designated substance regulation, respirable)	: 0.1 mg/m ³ TWA (respirable fraction)
XYLENE	: 100 ppm TWA : 150 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 150 ppm STEL; 655 mg/m ³ STEL	TWA: 100 ppm TWAEV; 434 mg/m ³ TWAEV STEL: 150 ppm STEV; 651 mg/m ³ STEV	TWA: 100 ppm TWA STEL: 150 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 150 ppm STEL; 655 mg/m ³ STEL
ETHYL BENZENE	: 100 ppm TWA : 125 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 125 ppm STEL; 545 mg/m ³ STEL	TWA: 100 ppm TWAEV; 434 mg/m ³ TWAEV STEL: 125 ppm STEV; 543 mg/m ³ STEV	TWA: 100 ppm TWA STEL: 125 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 125 ppm STEL; 545 mg/m ³ STEL

Engineering measures

Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Skin protection

Lightweight protective clothing, Apron, Impervious gloves

Eye/face protection

Safety glasses with side-shields

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 range

No information available

Upper explosion limit

No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Lower explosion limit	No information available
Evaporation rate	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.28942 g/cm ³
Density	10.72994 lbs/gal
Volatile organic compounds (VOC) content	.087 lbs/gal
Volatile by weight	.8090 %
Volatile by volume	1.2339 %

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	Conditions to avoid	Heat, flames and sparks.
Incompatible products	Strong oxidizing agents. Acids.	Possibility of hazardous reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
IRON OXIDE FUME	10000 mg/kg (Rat)		
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
XYLENE	4300 mg/kg (Rat)	1700 mg/kg (Rabbit)	5000 ppm (Rat) 4 h 47635 mg/L (Rat) 4 h
ETHYL BENZENE	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 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
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
ETHYL BENZENE	A3	Group 2B		X	

Mutagenicity	No information available
Reproductive effects	No information available
Developmental effects	No information available
Teratogenicity	No information available
Target Organ Effects	Gastrointestinal tract, Eyes, Liver, Lungs, Respiratory system, Skin.
Endocrine Disruptor Information	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
XYLENE		LC50= 13.4 mg/L Pimephales promelas 96 h LC50 2.661-4.093 mg/L Oncorhynchus mykiss 96 h LC50 13.5-17.3 mg/L Oncorhynchus mykiss 96 h LC50 13.1-16.5 mg/L Lepomis macrochirus 96 h LC50= 19 mg/L Lepomis macrochirus 96 h LC50 7.711-9.591 mg/L Lepomis macrochirus 96 h LC50 23.53-29.97 mg/L Pimephales promelas 96 h LC50= 780 mg/L Cyprinus carpio 96 h LC50> 780 mg/L Cyprinus carpio 96 h LC50 30.26-40.75 mg/L Poecilia reticulata 96 h	EC50 = 0.0084 mg/L 24 h	EC50 = 3.82 mg/L 48 h LC50 = 0.6 mg/L 48 h
ETHYL BENZENE	EC50 = 4.6 mg/L 72 h EC50 > 438 mg/L 96 h EC50 2.6 - 11.3 mg/L 72 h EC50 1.7 - 7.6 mg/L 96 h	LC50 11.0-18.0 mg/L Oncorhynchus mykiss 96 h LC50= 4.2 mg/L Oncorhynchus mykiss 96 h LC50 7.55-11 mg/L Pimephales promelas 96 h LC50= 32 mg/L Lepomis macrochirus 96 h LC50 9.1-15.6 mg/L Pimephales promelas 96 h LC50= 9.6 mg/L Poecilia reticulata 96 h	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50 1.8 - 2.4 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	Complies
CHINA	Does not Comply

ENCS Does not Comply
 KECL Does not Comply
 PICCS Does not Comply
 AICS Does not Comply

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Component
 XYLENE
 ETHYL BENZENE

United States of America Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
SILICON DIOXIDE/ALUMINUM OXIDE	66402-68-4	10 - 30	1.0 % de minimis concentration (does not include Barium sulfate CAS 7727-43-7, Chemical Category N040)
XYLENE	1330-20-7	0.1 - 1	1.0 % de minimis concentration (Chemical Category N982)
ETHYL BENZENE	100-41-4	0.1 - 1	0.1 % de minimis concentration

SARA 311/312 Hazardous Categorization

Chronic Health Hazard yes
 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		
XYLENE	100 lb RQ			X
ETHYL BENZENE	1000 lb RQ	X	X	X

CERCLA

United States of America State Regulations

California Prop. 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
ETHYL BENZENE	100-41-4	Carcinogen

State Right-to-Know

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

IRON OXIDE FUME					X
SILICON DIOXIDE/ALUMINUM OXIDE		X	X		X
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
XYLENE	X	X	X	X	X
ETHYL BENZENE	X	X	X	X	X

Other international regulations

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

WHMIS Classification
D2A Very toxic materials



Component	NPRI
XYLENE	Part 1, Group 1 Substance; Part 5 Substance
ETHYL BENZENE	Part 1, Group 1 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 27-May-2011

Revision Note No information available

HMIS (Hazardous Material Information System) **Health** 2* **Flammability** 1 **Reactivity** 1

Disclaimer

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

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End of MSDS