Material Safety Data Sheet

Print Date 13-Oct-2010 **Revision Date** 13-Oct-2010 **Revision Number** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product code F073-11WHA
Trade name ENDURA-SHIELD WHITE

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 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 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.
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. Gastrointestinal tract. Kidney disorders. Liver disorders. Skin 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, Gastrointestinal tract, Eyes, Kidney, Liver, Lungs, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	108-65-6	16.8597
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	15.6276
METHYL ETHYL KETONE	78-93-3	3.6071
AMORPHOUS SILICA	7631-86-9	1 - 5
ALUMINUM OXIDES	1344-28-1	1 - 5
XYLENE	1330-20-7	1.6241
ETHYL BENZENE	100-41-4	0.3797

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 (CO2) - Foam - Dry chemical

Hazardous decomposition products Oxides of carbon, hydrocarbons.

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

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

6. ACCIDENTAL RELEASE MEASURES

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

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

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

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

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)
TITANIUM DIOXIDE (TOTAL DUST)	: 10 mg/m^3 TWA	: 10 mg/m^3 TWA (total dust) : 15 mg/m^3 TWA (total dust)	TWA: 10 mg/m^3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica)	TWA: 10 mg/m^3 TWA (total dust)	: 10 mg/m^3 TWA (as Ti) : 20 mg/m^3 STEL (as Ti)
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE				TWA: 50 ppm TWA; 270 mg/m^3 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)
METHYL ETHYL KETONE	: 200 ppm TWA : 300 ppm STEL	: 200 ppm TWA; 590 mg/m^3 TWA : 300 ppm STEL; 885 mg/m^3 STEL	TWA: 50 ppm TWAEV; 150 mg/m^3 TWAEV STEL: 100 ppm STEV; 300 mg/m^3 STEV	TWA: 200 ppm TWA STEL: 300 ppm STEL	: 200 ppm TWA; 590 mg/m^3 TWA : 300 ppm STEL; 885 mg/m^3 STEL
ALUMINUM OXIDES	TWA: 1 mg/m^3	: 10 mg/m^3 TWA (total dust); 5 mg/m^3 TWA (respirable fraction) : 15 mg/m^3 TWA (total dust); 5 mg/m^3 TWA (respirable fraction)	TWA: 10 mg/m^3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica, as Al)	TWA: 10 mg/m^3	: 10 mg/m^3 TWA
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 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	13°C / 55.0°F
Boiling range	78 - 142°C / 172.0 - 288.0°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	1.52668 g/cm3
Density	12.70427 lbs
Volatile organic compounds (VOC) content	3.080 lbs
Volatile by weight	24.2350 %
Volatile by volume	40.2935 %

10. STABILITY AND REACTIVITY

Chemical stability Stable.

Conditions to avoid Heat, flames and sparks. Reacts with air to form peroxides.

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
TITANIUM DIOXIDE (TOTAL DUST)	10000 mg/kg (Rat)		
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	8532 mg/kg (Rat)	5000 mg/kg (Rabbit)	
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		
METHYL ETHYL KETONE	2737 mg/kg (Rat)	6480 mg/kg (Rabbit)	
AMORPHOUS SILICA	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h
ALUMINUM OXIDES	5000 mg/kg (Rat)		
XYLENE	4300 mg/kg (Rat)	1700 mg/kg (Rabbit)	47635 mg/L (Rat) 4 h 5000 ppm (Rat) 4 h
ETHYL BENZENE	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 h
DEFOAMER		3000 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

Component	ACGIH	IARC	NTP	OSHA	Mexico
TITANIUM DIOXIDE (TOTAL DUST)		Group 2B		X	
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
ETHYL BENZENE	A3	Group 2B		X	

Mutegenicity No information available
Reproductive effects No information available
Developmental effects No information available
Teratogenicity No information available
Target Organ Effects Blood, Central nervous system, Gastrointestinal tract, Eyes, Kidney, Liver, Lungs, Respiratory system, Skin.
Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

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Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE		LC50= 161 mg/L Pimephales promelas 96 h		EC50 > 500 mg/L 48 h
METHYL ETHYL KETONE		LC50 3130-3320 mg/L Pimephales promelas 96 h	EC50 = 3426 mg/L 5 min EC50 = 3403 mg/L 30 min	EC50 4025 - 6440 mg/L 48 h EC50 = 5091 mg/L 48 h EC50 > 520 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
XYLENE		LC50 13.1-16.5 mg/L Lepomis macrochirus 96 h LC50 13.5-17.3 mg/L Oncorhynchus mykiss 96 h LC50 2.661-4.093 mg/L Oncorhynchus mykiss 96 h LC50 23.53-29.97 mg/L Pimephales promelas 96 h LC50 30.26-40.75 mg/L Poecilia reticulata 96 h LC50 7.711-9.591 mg/L Lepomis macrochirus 96 h LC50= 13.4 mg/L Pimephales promelas 96 h LC50= 19 mg/L Lepomis macrochirus 96 h LC50= 780 mg/L Cyprinus carpio 96 h LC50> 780 mg/L Cyprinus carpio 96 h	EC50 = 0.0084 mg/L 24 h	LC50 = 0.6 mg/L 48 h EC50 = 3.82 mg/L 48 h

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
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 7.55-11 mg/L Pimephales promelas 96 h LC50 9.1-15.6 mg/L Pimephales promelas 96 h LC50= 32 mg/L Lepomis macrochirus 96 h LC50= 4.2 mg/L Oncorhynchus mykiss 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
DEFOAMER	EC50 = 4700 mg/L 72 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 UN1263,PAINT,3,PGIII,ERG 128

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

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
METHYL ETHYL KETONE	78-93-3	3.6071	1.0
ALUMINUM OXIDES	1344-28-1	1 - 5	1.0 % de minimis concentration (fibrous forms)
XYLENE	1330-20-7	1.6241	1.0 % de minimis concentration

ETHYL BENZENE	100-41-4	0.3797	0.1 % de minimis concentration

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
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
ETHYL BENZENE	100-41-4	Carcinogen

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
TITANIUM DIOXIDE (TOTAL DUST)	X	X	X		X
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
METHYL ETHYL KETONE	X	X	X	X	X
AMORPHOUS SILICA	X		X		
ALUMINUM OXIDES	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

B2 Flammable liquid

D2A Very toxic materials

Component	NPRI
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	Part 5 Substance
METHYL ETHYL KETONE	Part 1, Group 1 Substance; Part 5 Substance
ALUMINUM OXIDES	Part 1, Group 1 Substance (fibrous form)

XYLENE	Part 1, Group 1 Substance; Part 5 Substance
ETHYL BENZENE	Part 1, Group 1 Substance
DEFOAMER	Part 5 Substance

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 13-Oct-2010

Revision Note No information available

HMIS (Hazardous Material Information System) **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.

End of MSDS

Material Safety Data Sheet

Print Date 19-May-2011 **Revision Date** 19-May-2011 **Revision Number** 2

1. PRODUCT AND COMPANY IDENTIFICATION

Common name	SERIES 73 PART B
Product code	F073-0073B
Trade name	ENDURA-SHIELD CONVERTER
Product Class	POLYISOCYANATE 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!

COMBUSTIBLE LIQUID AND VAPOR.
HARMFUL OR FATAL IF SWALLOWED.
HARMFUL IF INHALED.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
MAY CAUSE ALLERGIC RESPIRATORY REACTION; EFFECTS MAY BE PERMANENT.
MAY CAUSE LUNG INJURY.
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.
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. Contains isocyanate monomer. If subject to spray application, engineering and administrative controls must be instituted to maintain an exposure level below .005ppm. If these controls are not adequate, the use of an air-supplied respirator is mandatory.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available

Interactive effects No information available

Potential environmental effects See Section 12 for additional Ecological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER	28182-81-2	30 - 60
P-CHLOROBENZOTRIFLUORIDE	98-56-6	30 - 60
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	822-06-0	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 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 (CO2) - Foam - Dry chemical

Hazardous decomposition products Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide. Chlorine. Fluorine.

Specific hazards arising from the chemical
Keep product and empty container away from heat and sources of ignition

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 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. Use only in an area containing flame proof equipment. 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)
P-CHLOROBENZOTRIFLUORIDE	TWA: 2.5 mg/m^3		TWA: 2.5 mg/m^3	TWA: 2.5 mg/m^3	
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	: 0.005 ppm TWA		TWA: 0.005 ppm TWAEV; 0.034 mg/m^3 TWAEV	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) CEV: 0.02 ppm Ceiling (designated substances regulation)	

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	40°C / 104.0°F
Boiling range	139 - 139°C / 282.0 - 282.0°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

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity	1.23332 g/cm3
Density	10.26311 lbs/gal
Volatile organic compounds (VOC) content	.000 lbs/gal
Volatile by weight	49.0030 %
Volatile by volume	44.9040 %

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	**Conditions to avoid**	Heat, flames and sparks. Amines.
Incompatible products	Strong oxidizing agents. 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
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER			18500 mg/m^3 (Rat) 1 h
P-CHLOROBENZOTRIFLUORIDE	13 g/kg (Rat)	2 mg/kg (Rabbit)	33 mg/L (Rat) 4 h
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	710 mg/kg (Rat)	570 mg/kg (Rabbit)	0.15 mg/L (Rat) 4 h 0.29 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

Mutegenicity	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

12. ECOLOGICAL INFORMATION

Ecotoxicity

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Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
P-CHLOROBENZOTRIFLUORIDE			EC50 = 11.1 mg/L 5 min EC50 = 13.4 mg/L 15 min EC50 = 14.3 mg/L 30 min	EC50 = 3.68 mg/L 48 h

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER		LC50= 26.1 mg/L Brachydanio rerio 96 h	EC50 = 53.2 mg/L 5 min EC50 = 25.5 mg/L 15 min EC50 = 15.7 mg/L 30 min	

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	Complies
CHINA	Complies
ENCS	Does not Comply
KECL	Complies
PICCS	Complies
AICS	Complies

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

United States of America Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	822-06-0	0.1 - 1	1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)

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
P-CHLOROBENZOTRIFLUORIDE		X		

CERCLA

United States of America State Regulations

California Prop. 65
This product contains the following Proposition 65 chemicals:

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
P-CHLOROBENZOTRIFLUORIDE		X	X		X
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	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
B3 Combustible liquid
D2A Very toxic materials

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 19-May-2011

Revision Note No information available

HMIS (Hazardous Material Information System) **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.
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End of MSDS