



# Safety Data Sheet

**Issue Date** No data available

**Revision Date** 09-Dec-2014

**Revision Number** 8

## 1. IDENTIFICATION

**Product identifier**

**Product Code**

S297-00WHA

**Product Name**

ENVIRO-GLAZE TNEMEC WHITE

**Other means of identification**

**Common Name**

SERIES 297 PART A

**Recommended use of the chemical and restrictions on use**

**Recommended Use**

industrial paint.

**Uses advised against**

Consumer use, For professional use only. Not for residential use.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372

**Emergency telephone number**

**Company Phone Number**

Tnemec Regulatory Dept: 816-474-3400

**24 Hour Emergency Phone Number** 800-535-5053 (Infotrac)

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1

**Label elements**

### EMERGENCY OVERVIEW

**Danger**

**Hazard statements**

Causes eye irritation

May cause an allergic skin reaction

May cause genetic defects

May cause cancer

Suspected of damaging fertility or the unborn child

May cause respiratory irritation. May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure

**Appearance** opaque**Physical state** liquid**Odor** Slight aromatic**Precautionary Statements****Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Do not eat, drink or smoke when using this product

**Response**

IF exposed or concerned: Get medical advice/attention  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation or rash occurs: Get medical advice/attention  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other information**

- Causes mild skin irritation
  - Harmful to aquatic life with long lasting effects
- Acute Toxicity 22.67578187 % of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30%
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	1 - 10%
AMORPHOUS SILICA	7631-86-9	1 - 10%
AROMATIC PETROLEUM DISTILLATE	64742-95-6	1 - 10%

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**Description of first aid measures**

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. Oxygen or artificial respiration if needed.
<b>Ingestion</b>	If swallowed, do not induce vomiting. Get medical attention immediately.
<b>Self-protection of the first aider</b>	Use personal protective equipment. Avoid contact with eyes, skin and clothing.

**Most important symptoms and effects, both acute and delayed**

<b>Most important symptoms and effects</b>	Itching. Burning.
<b>Notes to physician</b>	Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Foam.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

In the event of fire and/or explosion do not breathe fumes Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.

**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, protective equipment and emergency procedures**

<b>Personal precautions</b>	Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition.
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**Environmental Precautions**

<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
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**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Remove all sources of ignition. Spills may be collected with inert, absorbent material for proper disposal. Use non-sparking tools, protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable containers for proper disposal.
<b>Methods for cleaning up</b>	If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** Avoid contact with eyes, skin 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.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep tightly closed in a dry and cool place. Keep away from heat, sparks and flame.

**Incompatible products** No information available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters****Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	5000 mg/m <sup>3</sup>
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	TWA: 20 ppm	TWA: 25 ppm TWA: 120 mg/m <sup>3</sup> Skin TWA: 50 ppm TWA: 240 mg/m <sup>3</sup>	700 ppm
AMORPHOUS SILICA 7631-86-9	-	TWA: 6 mg/m <sup>3</sup>	3000 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering measures** Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH's Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Safety glasses with side-shields If splashes are likely to occur, wear face-shield.

**Skin and body protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory protection** Use only with adequate ventilation. Do not breathe vapors, spray mist, or dust. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist or dust levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA 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

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	Slight aromatic
<b>Appearance</b>	opaque	<b>Odor threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		No data available
Melting point / freezing point		No data available
Boiling point / boiling range	100 °C / 212.0 °F	No information available
Flash point	110 °C / 230.0 °F	Pensky Martens - Closed Cup
Evaporation rate		No data available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No data available
Upper flammability limit	N/A	
Lower flammability limit	1.1	
Vapor pressure		No data available
Vapor density		No data available
Specific gravity	1.35456	g/cm3
Water solubility	Insoluble in cold water	
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Autoignition temperature		No data available
Decomposition temperature		
Kinematic viscosity		No data available
Dynamic viscosity	600 centipoises	

**Other Information**

Density	11.29705 lbs/gal
Volatile organic compounds (VOC) content	1.17397 lbs/gal
Total volatiles weight percent	39.78 %
Total volatiles volume percent	54.9 %

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks.

**Incompatible materials**

No information available

**Hazardous decomposition products**

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Carbon dioxide (CO<sub>2</sub>). Hydrocarbons.

## 11. TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

<b>Inhalation</b>	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
<b>Eye contact</b>	Irritating to eyes.
<b>Skin contact</b>	Irritating to skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Ingestion**

Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	> 10000 mg/kg ( Rat )		
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	= 470 mg/kg ( Rat )	= 99 mg/kg ( Rabbit )	= 450 ppm ( Rat ) 4 h
AMORPHOUS SILICA 7631-86-9	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h
AROMATIC PETROLEUM DISTILLATE 64742-95-6	= 8400 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 3400 ppm ( Rat ) 4 h

**Information on toxicological effects****Symptoms**

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity**

Contains ethylene glycol monobutyl ether which may cause blood damage based on animal data.

**Sensitization**

May cause sensitization of susceptible persons.

**Mutagenicity**

Substances which should be regarded as being mutagenic to man.

**Carcinogenicity**

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

Component	ACGIH	IARC	NTP	OSHA
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7		Group 2B		X
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	A3	Group 3		
AMORPHOUS SILICA 7631-86-9		Group 3		

**Reproductive effects**

Suspected of damaging fertility or the unborn child.

**STOT - single exposure**

Skin, blood

**STOT - repeated exposure**

Causes damage to organs through prolonged or repeated exposure

**Target organ effects**

blood, Central nervous system, Eyes, hematopoietic system, kidney, liver, Lungs, respiratory system, Skin.

**Aspiration hazard**

Based on product level data, this product does not meet the requirement to be classified as an aspiration hazard. However, this product contains an ingredient that may cause aspiration if swallowed.

**Acute Toxicity**

22.67578187 % of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document .

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

29.89254 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2		2950: 96 h <i>Lepomis macrochirus</i> mg/L LC50 1490: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static	1698 - 1940: 24 h <i>Daphnia magna</i> mg/L EC50 1000: 48 h <i>Daphnia magna</i> mg/L EC50
AMORPHOUS SILICA 7631-86-9	440: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	5000: 96 h <i>Brachydanio rerio</i> mg/L LC50 static	7600: 48 h <i>Ceriodaphnia dubia</i> mg/L EC50
AROMATIC PETROLEUM DISTILLATE 64742-95-6		9.22: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50	6.14: 48 h <i>Daphnia magna</i> mg/L EC50

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility in Environmental Media**

Component	log Pow
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	0.81

**Other Adverse Effects**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****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 to an approved waste handling site for recycling or disposal.

**14. TRANSPORT INFORMATION****DOT****Proper Shipping Name**

paint,water base freezable Not regulated

**IATA****Proper Shipping Name**

Not regulated

**IMDG/IMO****Proper Shipping Name**

paint,water base freezable, Not regulated

**Additional information**

Call TNE MEC Traffic Department - 816-474-3400 for additional information or other modes of Transportation.

**15. REGULATORY INFORMATION****International Inventories**

TSCA	Complies
DSL/NDL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

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

Component

HAPS Data

ETHYLENE GLYCOL MONOBUTYL ETHER

United States of AmericaSARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values
ETHYLENE GLYCOL MONOBUTYL ETHER - 111-76-2	1.0

SARA 311/312 HazardousCategorization

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

CERCLAUnited States of AmericaCalifornia Prop. 65

WARNING! This product contains a chemical known in the State of California to cause cancer

Component	California Prop. 65
TITANIUM DIOXIDE (TOTAL DUST) - 13463-67-7	Carcinogen

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	X	X	X
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	X	X	X
AMORPHOUS SILICA 7631-86-9	X	X	X

**16. OTHER INFORMATION**NFPA

HMIS (Hazardous  
Material Information  
System)

Health 2  
Health 2\*

Flammability 1  
Flammability 1

Instability 1  
Reactivity 1

Physical hazard \*

Prepared By  
Revision Date  
Revision Summary  
9 4 5 8 11 14

Tnemec Regulatory Dept: 816-474-3400  
09-Dec-2014

**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**



# Safety Data Sheet

Issue Date 22-Jun-2015

Revision Date 22-Jun-2015

Revision Number 13

## 1. IDENTIFICATION

### Product identifier

**Product Code** S297-0297B  
**Product Name** ENVIRO-GLAZE CONVERTER

### Other means of identification

**Common Name** SERIES 297 PART B

### Recommended use of the chemical and restrictions on use

**Recommended Use** industrial paint.  
**Uses advised against** Consumer use, For professional use only. Not for residential use.

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372

### Emergency telephone number

**Company Phone Number** Tnemec Regulatory Dept: 816-474-3400  
**24 Hour Emergency Phone Number** 800-535-5053 (Infotrac)

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1

### Label elements

## EMERGENCY OVERVIEW

### **Danger**

#### **Hazard statements**

Harmful if inhaled  
Causes skin irritation  
Causes serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction

**Appearance** Colorless**Physical state** liquid**Odor** Slight Organic**Precautionary Statements****Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 In case of inadequate ventilation wear respiratory protection  
 Contaminated work clothing should not be allowed out of the workplace

**Response**

Get medical advice/attention if you feel unwell  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of soap and water  
 Take off contaminated clothing and wash before reuse  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

**Storage**

Store locked up  
 Keep away from children

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other information**

Acute Toxicity 35.8 % of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER	28182-81-2	60 - 100%
POLYISOCYANATE PREPOLYMER	-	30 - 60%
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	822-06-0	0.1 - 1%

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** If symptoms persist, call a physician.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes.

<b>Skin contact</b>	Wash affected area with soap and water. Remove contaminated clothing. Dispose of or launder accordingly. Consult a physician if skin irritation persists.
<b>Inhalation</b>	Remove to fresh air. Oxygen or artificial respiration if needed.
<b>Ingestion</b>	If swallowed, do not induce vomiting. Get medical attention immediately.
<b>Self-protection of the first aider</b>	Use personal protective equipment. Avoid contact with eyes, skin and clothing.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	
<b>Most important symptoms and effects</b>	Asthma-like and/ or skin allergy-like symptoms.
<b>Notes to physician</b>	Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Water.

### **Specific hazards arising from the chemical**

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. 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, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with eyes, skin and clothing. Use personal protective equipment.

### **Environmental Precautions**

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

### **Methods and material for containment and cleaning up**

**Methods for containment** Spills may be collected with inert, absorbent material for proper disposal. Use protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable container for disposal.

**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. Use personal protective equipment.

## 7. HANDLING AND STORAGE

### **Precautions for safe handling**

**Handling** Use only with adequate ventilation. Avoid contact with eyes, skin 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.

**Conditions for safe storage, including any incompatibilities**

**Storage** Close container after each use. Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

**Incompatible products** Water. Amines. Strong bases. copper. Alcohols.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	TWA: 0.005 ppm	-	

**Appropriate engineering controls**

**Engineering measures** Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH's Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Safety glasses with side-shields If splashes are likely to occur, wear face-shield.

**Skin and body protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**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

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	Slight Organic
<b>Appearance</b>	Colorless	<b>Odor threshold</b>	No information available
<b>Color</b>	clear		

<b>Property</b>	<b>Values</b>	<b>Remarks</b>
<b>pH</b>		No data available
<b>Melting point / freezing point</b>		No data available

Boiling point / boiling range	72 °C / 162 °F	
Flash point	No information available	
Evaporation rate		No data available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No data available
Upper flammability limit	N/A	
Lower flammability limit	N/A	
Vapor pressure		No data available
Vapor density		No data available
Specific gravity	1.16562	g/cm3
Water solubility	Insoluble in cold water	
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity	1000 mPa s	

**Other Information**

Density	9.69970 lbs/gal
Volatile organic compounds (VOC) content	.000 lbs/gal
Total volatiles weight percent	.0000 %
Total volatiles volume percent	.0000 %

## 10. STABILITY AND REACTIVITY

**Reactivity**

Water reactive, Amines, Alcohols

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks.

**Incompatible materials**

Water, Amines, Strong bases, copper, Alcohols

**Hazardous decomposition products**

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Oxides of nitrogen. Carbon dioxide. Hydrogen cyanide. Isocyanates.

## 11. TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

<b>Inhalation</b>	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. May cause sensitization of susceptible persons.
<b>Eye contact</b>	Irritating to eyes.
<b>Skin contact</b>	Irritating to skin. May cause sensitization of susceptible persons.
<b>Ingestion</b>	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER 28182-81-2			= 18500 mg/m <sup>3</sup> ( Rat ) 1 h
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	= 738 mg/kg ( Rat )	= 593 mg/kg ( Rabbit )	= 0.06 mg/L ( Rat ) 4 h

**Information on toxicological effects**

**Symptoms** Respiratory disorders. Skin disorders.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** May cause irritation.  
**Eye damage/irritation** Irritating to eyes.  
**Chronic Toxicity** Avoid repeated exposure. Contains isocyanates. May produce an allergic reaction.  
**Sensitization** May cause sensitization of susceptible persons.  
**Mutagenicity** No information available.  
**Carcinogenicity** There are no known carcinogenic chemicals in this product.  
**Reproductive effects** No information available.  
**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target organ effects** respiratory system, Skin.  
**Aspiration hazard** Based on product level data, this product does not meet the requirement to be classified as an aspiration hazard. However, this product contains an ingredient that may cause aspiration if swallowed.

**Acute Toxicity** 35.8 % of the mixture consists of ingredient(s) of unknown toxicity.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

99.8 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0		26.1: 96 h Brachydanio rerio mg/L LC50 static	

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility in Environmental Media**

**Other Adverse Effects** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods****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 to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

**DOT**

**Proper Shipping Name** paint in oil Not regulated

**IATA**

**Proper Shipping Name** Not regulated

**IMDG/IMO**

**Proper Shipping Name** paint, Not regulated

**Additional information**

Call TNE MEC Traffic Department - 816-474-3400 for additional information or other modes of Transportation.

## 15. REGULATORY INFORMATION

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

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

**Component****HAPS Data**

HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER

**United States of America****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372:

<b>Component</b>	<b>SARA 313 - Threshold Values</b>
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER - 822-06-0	1.0

**SARA 311/312 Hazardous****Categorization**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

**United States of America****California Prop. 65**

None of the ingredients are listed with California Proposition 65.

**California SCAQMD Rule 443**

Does Not Contain Photochemically Reactive Solvent

**State Right-to-Know**

Component	New Jersey	Massachusetts	Pennsylvania
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	X	X	

**16. OTHER INFORMATION****NFPA**

Health 2

Flammability 1

Instability 1

Physical hazard \*

**HMIS (Hazardous  
Material Information  
System)**

Health 2\*

Flammability 1

Reactivity 1

**Prepared By****Revision Date****Revision Summary**

9 4 5 6 7 10 8 11 14 15

**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**