



Safety Data Sheet

Issue Date 14-Aug-2018

Revision Date 13-Aug-2018

Revision Number 9

1. IDENTIFICATION

Product identifier

Product Code 1081-00WHA
Product Name ENDURA-SHIELD WB TNEMEC WHITE

Other means of identification

Common Name SERIES 1081, PART A
Synonyms None

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 816-474-3400
Distributor Tnemec Company, Inc. 86 Boul, des Entreprises, Ste. 203, Boisbriand, Quebec Canada J7G 2T3

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
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Flammable Liquids	Category 3

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Causes eye irritation
May cause an allergic skin reaction
May cause genetic defects
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
Flammable liquid and vapor

**Appearance** opaque**Physical state** liquid**Odor** Slight**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
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Use explosion-proof electrical/ventilating/lighting/mixing/equipment
 Keep cool

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 skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

If product is in liquid or paste form, physical or health hazards listed related to dust are not considered significant. However, product may contain substances that could be potential hazards if caused to become airborne due to grinding, sanding or other abrasive processes.

Other information

SEE SAFETY DATA SHEET

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

Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs

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

Acute Toxicity 21.47012082 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - <30%
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	10 - <30%
CALCINED KAOLIN	92704-41-1	1 - <10%
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	1 - <10%
AMORPHOUS SILICA	7631-86-9	1 - <10%
AMORPHOUS SILICA	7631-86-9	1 - <10%
AROMATIC PETROLEUM DISTILLATE	64742-95-6	1 - <10%
BIS (PENTAMETHYLPIPERIDYL) SEBACATE	41556-26-7	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. If eye irritation persists, consult a specialist.
Skin contact	Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. Oxygen or artificial respiration if needed.
Ingestion	If swallowed, do not induce vomiting. Get medical attention immediately.
Self-protection of the first aider	Use personal protective equipment. Avoid contact with eyes, skin and clothing.

Most important symptoms and effects, both acute and delayed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide. Foam. Dry chemical.

Unsuitable extinguishing media Water.

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

Hazardous combustion 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 oxides. Nitrogen oxides (NOx). Hydrocarbons.

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, protective equipment and emergency procedures

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

sources of ignition.

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 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.

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.

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 container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products Strong oxidizing agents. Acids. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 15 mg/m ³	5000 mg/m ³
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³ TWA: 50 µg/m ³	50 mg/m ³
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	TWA: 20 ppm	TWA: 25 ppm TWA: 120 mg/m ³ Skin TWA: 50 ppm TWA: 240 mg/m ³	700 ppm
AMORPHOUS SILICA 7631-86-9	-	TWA: 6 mg/m ³	3000 mg/m ³
AMORPHOUS SILICA 7631-86-9	-	TWA: 6 mg/m ³	3000 mg/m ³

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	Use chemical resistant splash type goggles. 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

Physical state	liquid	Odor	Slight
Appearance	opaque	Odor threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		No data available
Melting point / freezing point	No data available	No data available
Boiling point / boiling range	100 °C / 212.0 °F	
Flash point	52 °C / 125.0 °F	Pensky Martens - Closed Cup
Evaporation rate		No data available
Flammability (solid, gas)	No data available	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	1.56074	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	No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity	1900 centipoises	approx

Other Information

Density	13.01653 lbs/gal
Volatile organic compounds (VOC) content	1.03355 lbs/gal
Total volatiles weight percent	30.95 %
Total volatiles volume percent	49.3 %
Bulk density	No information available

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

Strong oxidizing agents, Acids, Bases

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 oxides. Hydrocarbons. Oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure**

Inhalation	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
Eye contact	Causes serious eye irritation.
Skin contact	Irritating to skin. May cause sensitization by skin contact.
Ingestion	Harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	> 10000 mg/kg (Rat)	-	-
CALCINED KAOLIN 92704-41-1	> 2000 mg/kg (Rat)	-	-
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	= 470 mg/kg (Rat)	= 99 mg/kg (Rabbit)	= 450 ppm (Rat) 4 h = 486 ppm (Rat) 4 h
AMORPHOUS SILICA 7631-86-9	= 7900 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.2 mg/L (Rat) 1 h
AMORPHOUS SILICA 7631-86-9	= 7900 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
BIS (PENTAMETHYLPIPERIDYL) SEBACATE 41556-26-7	= 2615 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders. Irritating to eyes and skin.

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

Chronic Toxicity Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure). Contains ethylene glycol monobutyl ether which may cause blood damage based on animal data.

Sensitization May cause sensitization of susceptible persons.

Mutagenicity May cause genetic defects.

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

Chemical name	ACGIH	IARC	NTP	OSHA
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7		Group 2B	-	X

CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	A3	Group 3	-	
AMORPHOUS SILICA 7631-86-9		Group 1 Group 3	Known	
AMORPHOUS SILICA 7631-86-9		Group 1 Group 3	Known	
AROMATIC PETROLEUM DISTILLATE 64742-95-6	*	-	-	

Reproductive effects Suspected of damaging fertility or the unborn child.
STOT - single exposure Skin, Eyes, Central Nervous System (CNS)
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 No information available.

Acute Toxicity 21.47012082 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

33.27817 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
CALCINED KAOLIN 92704-41-1	100: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	100: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 semi-static	1: 48 h <i>Daphnia magna</i> mg/L EC50
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
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
BIS (PENTAMETHYLPIPERIDYL) SEBACATE 41556-26-7		0.97: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static	20: 24 h <i>Daphnia magna</i> mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

Chemical name	log Pow
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	0.81
BIS (PENTAMETHYLPIPERIDYL) SEBACATE 41556-26-7	0.37

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.

US EPA Waste Number

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
XYLENE 1330-20-7		Included in waste stream: F039		U239
TOLUENE 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151		U220
1,4 DIOXANE 123-91-1	U108	Included in waste stream: F039		U108

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name paint,water base freezable

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

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	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/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):

Chemical name	HAPS Data
ETHYLENE GLYCOL MONOBUTYL ETHER	

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 and Title 40n of the Code of Federal Regulations, Part 372:

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

SARA 311/312 Hazardous

Categorization

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

California Prop. 65

WARNING: This product can expose you to the following chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical name	California Prop. 65
TITANIUM DIOXIDE (TOTAL DUST) - 13463-67-7	Carcinogen
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen
ETHYLENE GLYCOL MONOBUTYL ETHER - 111-76-2	Developmental
AMORPHOUS SILICA - 7631-86-9	Carcinogen
AMORPHOUS SILICA - 7631-86-9	Carcinogen
BUTYL CARBITOL -	*
CRYSTALLINE SILICA - 14808-60-7	Carcinogen
CARBON BLACK DUST & FUME - 1333-86-4	Carcinogen
TOLUENE - 108-88-3	Developmental
1,4 DIOXANE - 123-91-1	Carcinogen

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Chemical name	New Jersey	Massachusetts	Pennsylvania
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	X	X	X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	X	X	X
AMORPHOUS SILICA 7631-86-9		X	X
AMORPHOUS SILICA 7631-86-9		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 Tnemec Regulatory Dept: 816-474-3400
 Revision Date 13-Aug-2018

Revision Summary
 9 4 5 7 10 8 11 14 1 13

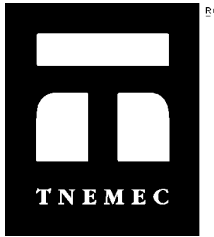
Disclaimer

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 SDS



Safety Data Sheet

Issue Date 20-Jul-2018

Revision Date 20-Jul-2018

Revision Number 9

1. IDENTIFICATION

Product identifier

Product Code 1080-1081B
Product Name ENDURA-SHIELD WB CONVERTER

Other means of identification

Common Name SERIES 1080/1081, PART B
Synonyms None

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 816-474-3400
Distributor Tnemec Company, Inc. 86 Boul, des Entreprises, Ste. 203, Boisbriand, Quebec Canada J7G 2T3

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
Flammable Liquids	Category 3

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
Flammable liquid and vapor



Appearance opaque

Physical state liquid

Odor Slight

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
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/mixing/equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge

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 skin irritation or rash occurs: Get medical advice/attention
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- 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
- In case of fire: Use CO2, dry chemical, or foam for extinction

Storage

- Store in a well-ventilated place. Keep cool
- Keep away from children

Disposal

- Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other information

SEE SAFETY DATA SHEET

Contains isocyanates. May produce an allergic reaction

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	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	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.
Skin contact	Wash affected area with soap and water. Remove contaminated clothing. Dispose of or launder accordingly. Consult a physician if skin irritation persists.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If swallowed, do not induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Use personal protective equipment. Avoid contact with eyes, skin and clothing.

Most important symptoms and effects, both acute and delayed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide. Foam. Dry powder. Dry chemical.

Unsuitable extinguishing media Water.

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 In the event of fire, cool tanks with water spray The product causes irritation of eyes, skin and mucous membranes

Hazardous combustion 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 oxides. Nitrogen oxides (NOx). Hydrogen cyanide.

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, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with eyes, skin and clothing.

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 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.

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.

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. Close container after each use.

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

Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children.

Incompatible products

Water, alcohols, amines, strong bases, metal components, surface active materials. Alcohols.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure guidelines**

Chemical name	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

Physical state	liquid	Odor	Slight
Appearance	opaque	Odor threshold	No information available
Color	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		No information available
Flash point	74 °C / 165.00 °F	Pensky Martens - Closed Cup
Evaporation rate		No data available
Flammability (solid, gas)	No data 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/cm ³
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		No data available

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 %
Bulk density	No information available

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

Protect from water. Heat, flames and sparks. Amines.

Incompatible materials

Water, alcohols, amines, strong bases, metal components, surface active materials, 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. Carbon oxides. Nitrogen oxides (NO_x). Hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation	HARMFUL BY INHALATION. May cause sensitization of susceptible persons. 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 by inhalation.
Eye contact	Causes serious eye irritation.
Skin contact	Irritating to skin. May cause sensitization of susceptible persons.
Ingestion	Harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER 28182-81-2	-	-	= 18500 mg/m ³ (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 Skin disorders. Respiratory disorders. Irritating to eyes and skin.

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

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
Aspiration hazard Not applicable.

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 component(s) of unknown hazards to the aquatic environment

Chemical name	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

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/NDSL Complies
 EINECS/ELINCS Complies
 ENCS Does Not Comply
 IECSC Complies
 KECL Complies
 PICCS Complies
 AICS 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):

Chemical name **HAPS Data**
 HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER

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 and Title 40n of the Code of Federal Regulations, Part 372:

Chemical name	SARA 313 - Threshold Values
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER - 822-06-0	1.0

SARA 311/312 Hazardous

Categorization

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

Chemical name	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

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

Chemical name	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	

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Revision Summary
 5 7 10 8 9 11 14 15 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 SDS