

Safety Data Sheet

Issue Date 28-Sep-2016

Revision Date 28-Sep-2016

Revision Number 4

1. IDENTIFICATION

Product identifier

Product Code 1095-00WHA
Product Name ENDURA-SHIELD TNEMEC WHITE

Other means of identification

Common Name SERIES 1095, PART A
UN/ID no. 1263

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
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Not classified
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
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

Harmful if inhaled
Causes eye irritation
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
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 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
- Use only outdoors or in a well-ventilated area
- Wash face, hands and any exposed skin thoroughly after handling
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- 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 explosion-proof electrical/ventilating/lighting/mixing/equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- 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)

Other information

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
 SEE SAFETY DATA SHEET
 Acute Toxicity 27.0654 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
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CRYSTALLINE SILICA (QUARTZ)	14808-60-7	30 - 60%
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30%
ACRYLIC RESIN SOLUTION	M310	10 - 30%
tert-BUTYL ACETATE	540-88-5	1 - 10%
NON-HAZARDOUS MATERIAL	M191	1 - 10%
NON-HAZARDOUS RESIN	M331	1 - 10%
P-CHLOROBENZOTRIFLUORIDE	98-56-6	1 - 10%
TERT-BUTYL ACETATE	540-88-5	1 - 10%
METHYL N-AMYL KETONE	110-43-0	1 - 10%
AMORPHOUS SILICA	7631-86-9	1 - 10%
N-BUTYL ACETATE	123-86-4	0.1 - 1%
PROPRIETARY AMIDE	-	0.1 - 1%
FATTY ACID ESTER	-	0.1 - 1%
ALUMINUM OXIDES	1344-28-1	0.1 - 1%
ALUMINUM HYDROXIDE	21645-51-2	0.1 - 1%
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	108-65-6	0.1 - 1%
ACRYLIC POLYMER	C173	0.1 - 1%
PETROLEUM SOLVENT (NAPHTHA)	64742-95-6	0.1 - 1%
BIS (PENTAMETHYLPYPERIDYL) SEBACATE	41556-26-7	0.1 - 1%
DEFOAMER	C125	0.1 - 1%
PROPRIETARY	C434	0.1 - 1%
OLEYL ALCOHOL ETHOXYLATED, PHOSPHATED, FATTY AMINE ETHOXYLATED SALT	120968-16-3	0.1 - 1%
NON-HAZARDOUS RESIN	C629	0.1 - 1%
ZIRCONIUM OXIDE	1314-23-4	0.1 - 1%
DIPROPYLENE GLYCOL	25265-71-8	0.1 - 1%
PROPRIETARY	82919-37-7	0.1 - 1%
2,4-PENTANEDIONE	123-54-6	0 - 0.1%
AMINE COMPOUNDS	280-57-9	0 - 0.1%
ORGANIC ACID	-	0 - 0.1%
ALIPHATIC ALCOHOL	-	0 - 0.1%
@NAME	67784-80-9	0 - 0.1%
NON-HAZARDOUS RESIN	R396	0 - 0.1%
2-METHOXY-2-PROPANOL ACETATE (IMPURITY)	70657-70-4	0 - 0.1%
PROPYLENE GLYCOL MONOMETHYL ET	108-65-6	0 - 0.1%
CHROMA-CHEM 846-0451	-	0 - 0.1%
PROPYLENE GLYCOL MONOMETHYL ET	108-65-6	0 - 0.1%
PROPRIETARY	G150	0 - 0.1%
PROPRIETARY	C434	0 - 0.1%
DIBUTYLTIN DILAURYL MERCAPTIDE	1185-81-5	0 - 0.1%
INDUSTRIAL COLORANT	G150	0 - 0.1%
CHROMA-CHEM 846-9451	-	0 - 0.1%
PHOSPHORIC ESTER SALT	-	0 - 0.1%
PHOSPHORIC ESTER SALT	R395	0 - 0.1%
MAGNESIUM SILICATE	-	0 - 0.1%

*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 immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	Drink 1 or 2 glasses of water to dilute. Do not induce vomiting. Consult a physician or poison control center IMMEDIATELY. Treat symptomatically. 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.
<u>Most important symptoms and effects, both acute and delayed</u>	
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide. Foam. Dry chemical.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

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. Hydrocarbons. Oxides of nitrogen. Chlorine. Fluorine. Sulfur oxides.

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 Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment. Avoid contact with eyes, skin and clothing.

Environmental Precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water 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. Do not breathe vapours or spray mist. Close container after each use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapours/dust. Do not ingest. Ensure adequate ventilation.

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

Acids. Bases. Strong oxidizing agents. caustic.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	50 mg/m ³
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
tert-BUTYL ACETATE 540-88-5	TWA: 50 ppm STEL: 150 ppm	TWA: 200 ppm TWA: 950 mg/m ³	1500 ppm
P-CHLOROBENZOTRIFLUORIDE 98-56-6	TWA: 2.5 mg/m ³	-	
TERT-BUTYL ACETATE 540-88-5	TWA: 50 ppm STEL: 150 ppm	TWA: 200 ppm TWA: 950 mg/m ³	1500 ppm
METHYL N-AMYL KETONE 110-43-0	TWA: 50 ppm	TWA: 100 ppm TWA: 465 mg/m ³	800 ppm
AMORPHOUS SILICA 7631-86-9	-	TWA: 6 mg/m ³	3000 mg/m ³
N-BUTYL ACETATE 123-86-4	TWA: 50 ppm STEL: 150 ppm	TWA: 150 ppm TWA: 710 mg/m ³ STEL: 200 ppm STEL: 950 mg/m ³	1700 ppm
ALUMINUM OXIDES 1344-28-1	TWA: 1 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³ TWA: 15 mg/m ³	
ALUMINUM HYDROXIDE 21645-51-2	TWA: 1 mg/m ³	-	
ZIRCONIUM OXIDE 1314-23-4	TWA: 5 mg/m ³	-	25 mg/m ³
2,4-PENTANEDIONE 123-54-6	TWA: 25 ppm Skin	-	
DIBUTYL TIN DILAURYL MERCAPTIDE 1185-81-5	TWA: 0.1 mg/m ³	-	25 mg/m ³
MAGNESIUM SILICATE	TWA: 2 mg/m ³	TWA: 2 mg/m ³	1000 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. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs.

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	aromatic
Appearance	opaque	Odor threshold	No information available
Color	No information available		
Property	Values	Remarks	
pH		No data available	
Melting point / freezing point		No data available	
Boiling point / boiling range	98 °C / 208.0 °F		
Flash point	26 °C / 78 °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	1.63144	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	4500 centipoises	approx	
Other Information			
Density	13.60621 lbs/gal		
Volatile organic compounds (VOC) content	0.87078 lbs/gal		
Total volatiles weight percent	17.88 %		
Total volatiles volume percent	31.68 %		

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. Reacts with air to form peroxides.

Incompatible materials

Acids, Bases, Strong oxidizing agents, caustic

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. Chlorine. Fluorine. Sulfur oxides. Oxides of nitrogen. Hydrocarbons. Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause irritation. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs.
Eye contact	Causes serious eye irritation.
Skin contact	Irritating to skin. May cause sensitization by skin contact.
Ingestion	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg (Rat)		
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	> 10000 mg/kg (Rat)		
tert-BUTYL ACETATE 540-88-5	= 4100 mg/kg (Rat)	> 2000 mg/kg (Rabbit) > 2 g/kg (Rabbit)	= 13300 mg/m ³ (Rat) 4 h > 2230 mg/m ³ (Rat) 4 h
P-CHLOROBENZOTRIFLUORIDE 98-56-6	= 13 g/kg (Rat)	> 2 mL/kg (Rabbit)	= 33 mg/L (Rat) 4 h
TERT-BUTYL ACETATE 540-88-5	= 4100 mg/kg (Rat)	> 2000 mg/kg (Rabbit) > 2 g/kg (Rabbit)	= 13300 mg/m ³ (Rat) 4 h > 2230 mg/m ³ (Rat) 4 h
METHYL N-AMYL KETONE 110-43-0	= 1600 mg/kg (Rat) = 1670 mg/kg (Rat)	= 12.6 mL/kg (Rabbit) = 12600 µL/kg (Rabbit)	> 2000 ppm (Rat) 4 h
AMORPHOUS SILICA 7631-86-9	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.2 mg/L (Rat) 1 h
N-BUTYL ACETATE 123-86-4	= 10768 mg/kg (Rat)	> 17600 mg/kg (Rabbit)	= 390 ppm (Rat) 4 h
ALUMINUM OXIDES 1344-28-1	> 5000 mg/kg (Rat)		
ALUMINUM HYDROXIDE 21645-51-2	> 5000 mg/kg (Rat)		
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE 108-65-6	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	
PETROLEUM SOLVENT (NAPTHA) 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)		
DIPROPYLENE GLYCOL 25265-71-8	= 14850 mg/kg (Rat)	> 20 mL/kg (Rabbit)	
2,4-PENTANEDIONE 123-54-6	= 570 mg/kg (Rat) = 55 mg/kg (Rat) = 760 mg/kg (Rat)	= 1370 mg/kg (Rabbit) = 790 mg/kg (Rabbit) = 810 µL/kg (Rabbit)	= 1224 ppm (Rat) 4 h
AMINE COMPOUNDS 280-57-9	= 1700 mg/kg (Rat)	= 3200 mg/kg (Rabbit)	
PROPYLENE GLYCOL MONOMETHYL ET 108-65-6	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	
PROPYLENE GLYCOL MONOMETHYL ET 108-65-6	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	

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). Skin sensitizer. Substances known to be mutagenic to man.

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.

Component	ACGIH	IARC	NTP	OSHA
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7		Group 2B		X
AMORPHOUS SILICA 7631-86-9		Group 3		
PETROLEUM SOLVENT (NAPHTHA) 64742-95-6				
MAGNESIUM SILICATE		Group 2B Group 3		

Reproductive effects No information available.
STOT - single exposure Eyes, Skin, Central Nervous System (CNS)
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure
Target organ effects Central nervous system, Eyes, Peripheral Nervous System (PNS), respiratory system, Skin.
Aspiration hazard No information available.

Acute Toxicity 27.0654 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

61.3752 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
tert-BUTYL ACETATE 540-88-5		296 - 362: 96 h Pimephales promelas mg/L LC50 flow-through	
P-CHLOROBENZOTRIFLUORIDE 98-56-6		11.5 - 15.8: 48 h Lepomis macrochirus mg/L LC50 static	3.68: 48 h Daphnia magna mg/L EC50
TERT-BUTYL ACETATE 540-88-5		296 - 362: 96 h Pimephales promelas mg/L LC50 flow-through	

METHYL N-AMYL KETONE 110-43-0		126 - 137: 96 h Pimephales promelas mg/L LC50 flow-through	
AMORPHOUS SILICA 7631-86-9	440: 72 h Pseudokirchneriella subcapitata mg/L EC50	5000: 96 h Brachydanio rerio mg/L LC50 static	7600: 48 h Ceriodaphnia dubia mg/L EC50
N-BUTYL ACETATE 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Lepomis macrochirus mg/L LC50 static 62: 96 h Leuciscus idus mg/L LC50 static	72.8: 24 h Daphnia magna mg/L EC50
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE 108-65-6		161: 96 h Pimephales promelas mg/L LC50 static	500: 48 h Daphnia magna mg/L EC50
PETROLEUM SOLVENT (NAPTHA) 64742-95-6		9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50
BIS (PENTAMETHYLPYPERIDYL) SEBACATE 41556-26-7		0.97: 96 h Lepomis macrochirus mg/L LC50 static	20: 24 h Daphnia magna mg/L EC50
DIPROPYLENE GLYCOL 25265-71-8		5000: 24 h Carassius auratus mg/L LC50 static	
2,4-PENTANEDIONE 123-54-6		50.3 - 71.8: 96 h Lepomis macrochirus mg/L LC50 flow-through 64.1 - 80.1: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 98.3 - 110: 96 h Pimephales promelas mg/L LC50 flow-through	34.4: 48 h Daphnia magna mg/L EC50
AMINE COMPOUNDS 280-57-9		1510 - 1980: 96 h Pimephales promelas mg/L LC50 flow-through	
PROPYLENE GLYCOL MONOMETHYL ET 108-65-6		161: 96 h Pimephales promelas mg/L LC50 static	500: 48 h Daphnia magna mg/L EC50
PROPYLENE GLYCOL MONOMETHYL ET 108-65-6		161: 96 h Pimephales promelas mg/L LC50 static	500: 48 h Daphnia magna mg/L EC50
MAGNESIUM SILICATE		100: 96 h Brachydanio rerio g/L LC50 semi-static	

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

Component	log Pow
tert-BUTYL ACETATE 540-88-5	1.38
P-CHLOROBENZOTRIFLUORIDE 98-56-6	3.7
TERT-BUTYL ACETATE 540-88-5	1.38
METHYL N-AMYL KETONE 110-43-0	1.98
N-BUTYL ACETATE 123-86-4	1.81
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE 108-65-6	0.43
BIS (PENTAMETHYLPYPERIDYL) SEBACATE 41556-26-7	0.37
2,4-PENTANEDIONE 123-54-6	0.34
PROPYLENE GLYCOL MONOMETHYL ET 108-65-6	0.43
PROPYLENE GLYCOL MONOMETHYL ET 108-65-6	0.43

Other Adverse Effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Methods It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Component	CAWAST
N-BUTYL ACETATE 123-86-4	Toxic
DIBUTYLTIN DILAURYL MERCAPTIDE 1185-81-5	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID no. 1263
Proper Shipping Name paint
Hazard Class 3
Packing Group III
Emergency Response Guide Number 128

IATA

UN/ID no. 1263
Proper Shipping Name paint
Hazard Class 3
Packing Group III
ERG Code 366

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 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):

United States of America

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

Component	SARA 313 - Threshold Values
ALUMINUM OXIDES - 1344-28-1	1.0
INDUSTRIAL COLORANT - G150	1

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

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
tert-BUTYL ACETATE 540-88-5				X
TERT-BUTYL ACETATE 540-88-5				X
N-BUTYL ACETATE 123-86-4	5000 lb			X

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
tert-BUTYL ACETATE 540-88-5	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
TERT-BUTYL ACETATE 540-88-5	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
N-BUTYL ACETATE 123-86-4	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

United States of America

California Prop. 65

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

Component	California Prop. 65
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen
TITANIUM DIOXIDE (TOTAL DUST) - 13463-67-7	Carcinogen
PETROLEUM SOLVENT (NAPHTHA) - 64742-95-6	

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	X	X	X
tert-BUTYL ACETATE 540-88-5	X	X	X
P-CHLOROBENZOTRIFLUORIDE 98-56-6	X		

TERT-BUTYL ACETATE 540-88-5	X	X	X
METHYL N-AMYL KETONE 110-43-0	X	X	X
AMORPHOUS SILICA 7631-86-9	X	X	X
N-BUTYL ACETATE 123-86-4	X	X	X
ALUMINUM OXIDES 1344-28-1	X	X	X
ZIRCONIUM OXIDE 1314-23-4		X	
DIPROPYLENE GLYCOL 25265-71-8			X
2,4-PENTANEDIONE 123-54-6	X	X	X
MAGNESIUM SILICATE	X	X	X

16. OTHER INFORMATION

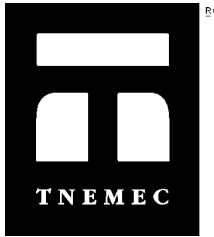
NFPA Health 2 Flammability 3 Instability 1 Physical hazard *
HMIS (Hazardous Material Information System) Health 2* Flammability 3 Reactivity 1

Prepared By Tnemec Regulatory Dept: 816-474-3400
Revision Date 28-Sep-2016
Revision Summary
 9 1 2 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 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 04-Aug-2017

Revision Date 04-Aug-2017

Revision Number 8

1. IDENTIFICATION

Product identifier

Product Code 1095-1095B
Product Name ENDURA-SHIELD ISO

Other means of identification

Common Name SERIES 1095, PART B
UN/ID no. 1263
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
Specific target organ toxicity (single exposure)	Category 3
Flammable Liquids	Category 2

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
May cause respiratory irritation. May cause drowsiness or dizziness
Highly flammable liquid and vapor

**Appearance** clear**Physical state** liquid**Odor** aromatic**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
 Keep cool

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 container tightly closed
 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 0.0001038 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER	28182-81-2	60 - 100%
tert-BUTYL ACETATE	540-88-5	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 symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center 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.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide. Foam. Dry chemical.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

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. Hydrocarbons. Oxides of nitrogen. Chlorine. Fluorine. Hydrogen cyanide.

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. Evacuate personnel to safe areas.
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Environmental Precautions

Environmental precautions	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

Methods for containment	Remove all sources of ignition. Spills may be collected with inert, absorbent material for
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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**

Close container after each use. Wear personal protective equipment. Avoid contact with eyes, skin 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.

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

Water, alcohols, amines, strong bases, metal components, surface active materials. Bases. Strong oxidizing agents. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
tert-BUTYL ACETATE 540-88-5	TWA: 50 ppm STEL: 150 ppm	TWA: 200 ppm TWA: 950 mg/m ³	1500 ppm
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**

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

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	aromatic
Appearance	clear	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	72 °C / 162 °F	
Flash point	8 °C / 47.0 °F	
Evaporation rate		Pensky Martens - Closed Cup
Flammability (solid, gas)	No data available	No data available
Flammability Limit in Air		No information available
Upper flammability limit	N/A	No data available
Lower flammability limit	N/A	
Vapor pressure		No data available
Vapor density		No data available
Specific gravity	1.02497	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		No data available

Other Information

Density	8.54823 lbs/gal
Volatile organic compounds (VOC) content	0 lbs/gal
Total volatiles weight percent	39.27 %
Total volatiles volume percent	46.76 %
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. Protect from water. Amines.

Incompatible materials

Water, alcohols, amines, strong bases, metal components, surface active materials, Bases, Strong oxidizing agents, Acids

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 oxides. Hydrocarbons. Chlorine. Fluorine. Hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation	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 central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause sensitization by inhalation.
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
HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER 28182-81-2	-	-	= 18500 mg/m ³ (Rat) 1 h
tert-BUTYL ACETATE 540-88-5	= 4100 mg/kg (Rat)	> 2 g/kg (Rabbit) > 2000 mg/kg (Rabbit)	= 13300 mg/m ³ (Rat) 4 h > 2230 mg/m ³ (Rat) 4 h
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	= 710 µL/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	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 and skin contact.
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	Central Nervous System (CNS), Respiratory system, Eyes, Skin
STOT - repeated exposure	No information available
Target organ effects	Central nervous system, Eyes, respiratory system, Skin.
Aspiration hazard	No information available.

Acute Toxicity 0.0001038 % 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

60.7282 % 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
tert-BUTYL ACETATE 540-88-5		296 - 362: 96 h Pimephales promelas mg/L LC50 flow-through	
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER		26.1: 96 h Brachydanio rerio mg/L LC50 static	

822-06-0			
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Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

Chemical name	log Pow
tert-BUTYL ACETATE 540-88-5	1.38

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

UN/ID no.	1263
Proper Shipping Name	paint
Hazard Class	3
Packing Group	II
Emergency Response Guide Number	128

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	Complies
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 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	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
tert-BUTYL ACETATE 540-88-5				X

Chemical name	Hazardous Substances RQs	CERCLA EHS RQs	RQ
tert-BUTYL ACETATE 540-88-5	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

California Prop. 65

This product does not contain any Proposition 65 chemicals

California SCAQMD Rule 443

Does Not Contain Photochemically Reactive Solvent

State Right-to-Know

Chemical name	New Jersey	Massachusetts	Pennsylvania
tert-BUTYL ACETATE 540-88-5	X	X	X
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	X	X	

16. OTHER INFORMATION

NFPA Health 2 Flammability 3 Instability 0 Physical hazard *
HMIS (Hazardous Material Information System) Health 2* Flammability 3 Reactivity 0

Prepared By Tnemec Regulatory Dept: 816-474-3400
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