

Safety Data Sheet

Issue Date 06-Mar-2019

Revision Date 06-Mar-2019

Revision Number 3

1. IDENTIFICATION

Product identifier

Product Code 1094-00WHA
Product Name ENDURA SHIELD HI GLOSS TNEMEC

Other means of identification

Common Name SERIES 1094, PART A
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)

Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Flammable Liquids	Category 2

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Causes serious eye irritation
May cause cancer
May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Highly 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
- 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
- Keep cool
- Use explosion-proof electrical/ventilating/lighting/equipment

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 (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

- May be harmful in contact with skin
- Harmful to aquatic life with long lasting effects
- SEE SAFETY DATA SHEET
- Acute Toxicity

31.71286755 % 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	30 - <60%
tert-BUTYL ACETATE	540-88-5	10 - <30%
P-CHLOROBENZOTRIFLUORIDE	98-56-6	1 - <10%

AMORPHOUS SILICA	7631-86-9	1 - <10%
FATTY ACID ESTER	-	1 - <10%
PROPRIETARY AMIDE	-	1 - <10%
ACETONE	67-64-1	1 - <10%
2,4-PENTANEDIONE	123-54-6	1 - <10%

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

4. FIRST AID MEASURES

Description of first aid measures

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 symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
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.
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 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. Oxides of nitrogen.

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 Use personal protective equipment. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Environmental precautions Prevent product from entering drains. 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

Pick up and transfer to properly labelled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Avoid contact with eyes, skin and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapours or spray mist. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage

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

Incompatible products

Incompatible with oxidizing agents. Strong bases. Strong acids.

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
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	-	250 mg/m ³
AMORPHOUS SILICA 7631-86-9	-	TWA: 6 mg/m ³	3000 mg/m ³
ACETONE 67-64-1	TWA: 250 ppm STEL: 500 ppm	TWA: 750 ppm TWA: 1800 mg/m ³ STEL: 2400 mg/m ³ STEL: 1000 ppm TWA: 1000 ppm TWA: 2400 mg/m ³	2500 ppm
2,4-PENTANEDIONE 123-54-6	TWA: 25 ppm Skin	-	

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	Chemical goggles or safety glasses with side-shields.
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	No data available
Melting point / freezing point	No data available	Literary Reference
Boiling point / boiling range	72 °C / 162 °F	
Flash point	7 °C / 45.00 °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	NA	
Lower flammability limit	NA	
Vapor pressure		No data available
Vapor density		No data available
Specific gravity	1.37183	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	360 centipoises	approx

Other Information

Density	11.44105 lbs/gal
Volatile organic compounds (VOC) content	0.74918 lbs/gal
Total volatiles weight percent	25.96 %
Total volatiles volume percent	38.2 %
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

Incompatible with oxidizing agents, Strong bases, Strong 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.

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	May cause irritation.
Ingestion	Harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	> 10000 mg/kg (Rat)	-	-
tert-BUTYL ACETATE 540-88-5	= 4100 mg/kg (Rat)	> 2 g/kg (Rabbit) > 2000 mg/kg (Rabbit)	> 2230 mg/m ³ (Rat) 4 h > 9482 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
AMORPHOUS SILICA 7631-86-9	= 7900 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.2 mg/L (Rat) 1 h
ACETONE 67-64-1	= 5800 mg/kg (Rat)	> 15700 mg/kg (Rabbit)	= 50100 mg/m ³ (Rat) 8 h
2,4-PENTANEDIONE 123-54-6	= 55 mg/kg (Rat) = 570 mg/kg (Rat) = 760 mg/kg (Rat)	= 1370 mg/kg (Rabbit) = 790 mg/kg (Rabbit) = 810 µL/kg (Rabbit)	= 1224 ppm (Rat) 4 h

Information on toxicological effects**Symptoms** Irritating to eyes and skin.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity** NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. May cause cancer.**Sensitization** No information available.**Mutagenicity** No information available.**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
AMORPHOUS SILICA 7631-86-9		Group 3	Known	

Reproductive effects No information available.
STOT - single exposure Causes damage to organs

STOT - repeated exposure
Target organ effects
Aspiration hazard

Causes damage to organs through prolonged or repeated exposure
 Central nervous system, Eyes, respiratory system, Skin.
 No information available.

Acute Toxicity

31.71286755 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

34.65941 % 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	
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
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
ACETONE 67-64-1		4.74 - 6.33: 96 h Oncorhynchus mykiss mL/L LC50 6210 - 8120: 96 h Pimephales promelas mg/L LC50 static 8300: 96 h Lepomis macrochirus mg/L LC50	10294 - 17704: 48 h Daphnia magna mg/L EC50 Static 12600 - 12700: 48 h Daphnia magna mg/L EC50
2,4-PENTANEDIONE 123-54-6		50.3 - 71.8: 96 h Lepomis macrochirus mg/L LC50 flow-through 98.3 - 110: 96 h Pimephales promelas mg/L LC50 flow-through 64.1 - 80.1: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	34.4: 48 h Daphnia magna mg/L EC50

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
P-CHLOROBENZOTRIFLUORIDE 98-56-6	3.7
ACETONE 67-64-1	-0.24
2,4-PENTANEDIONE 123-54-6	0.34

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.

US EPA Waste Number

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ACETONE 67-64-1		Included in waste stream: F039		U002

California Hazardous Waste Status

Chemical name	CAWAST
ACETONE 67-64-1	Ignitable

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/NDL Does Not Comply
 EINECS/ELINCS Does Not Comply
 ENCS Does Not Comply
 IECS Does Not Comply
 KECL Complies
 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
- IECS - 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):

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.

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

Clean Water Act

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

CERCLA

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
ACETONE 67-64-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

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
AMORPHOUS SILICA - 7631-86-9	Carcinogen
DIBUTYLTIN DILAURYL MERCAPTIDE - 1185-81-5	REPRODUCTIVE
CARBON BLACK, AMORPHOUS - 1333-86-4	Carcinogen
ETHYLENE GLYCOL MONOBUTYL ETHER - 111-76-2	Developmental

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
tert-BUTYL ACETATE 540-88-5	X	X	X
P-CHLOROBENZOTRIFLUORIDE 98-56-6	X		
AMORPHOUS SILICA 7631-86-9		X	X
ACETONE 67-64-1	X	X	X
2,4-PENTANEDIONE 123-54-6	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 06-Mar-2019
Revision Summary
 1 9 5 6 7 10 8 11 13 15 14

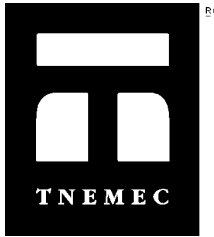
Disclaimer

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 06-Mar-2019

Revision Date 06-Mar-2019

Revision Number 13

1. IDENTIFICATION

Product identifier

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

Other means of identification

Common Name SERIES 1094/1095, 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

Contains isocyanates. May produce an allergic reaction
 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.

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.

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	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.
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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.
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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 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	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)	> 2230 mg/m ³ (Rat) 4 h > 9482 mg/m ³ (Rat) 4 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	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.

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 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

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
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 Health 2* Flammability 3 Reactivity 0
Material Information
System)

Prepared By Tnemec Regulatory Dept: 816-474-3400
Revision Date 06-Mar-2019

Revision Summary
 9 1 4 5 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.

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End of SDS