



Safety Data Sheet

Issue Date 05-Jun-2017

Revision Date 05-Jun-2017

Revision Number 3

1. IDENTIFICATION

Product identifier

Product Code 1556
Product Name ENDURA-HEAT
Color This safety data sheet covers all product color variations in accordance with 29 CFR 1910.1200(g)(4).

Other means of identification

Common Name SERIES 1556
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)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2
Flammable Liquids	Category 3

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
May cause cancer
Suspected of damaging fertility or the unborn child
Flammable liquid and vapor

**Appearance** white**Physical state** liquid**Odor** Solvent**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
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves
 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

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
 Immediately call a POISON CENTER or doctor/physician
 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
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up
 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**

May be harmful if swallowed
 May be harmful in contact with skin
 Toxic to aquatic life with long lasting effects
 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
 Acute Toxicity 72.1 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
PETROLEUM SOLVENT (NAPTHA)	64742-95-6	1 - <10%
TRIMETHYLBENZENES	25551-13-7	1 - <10%
tert-BUTYL ACETATE	540-88-5	1 - <10%

N-BUTANOL (SKIN)	71-36-3	1 - <10%
1,2,4-TRIMETHYLBENZENE	95-63-6	1 - <10%
XYLENE	1330-20-7	1 - <10%
ORGANOSILANE ESTER	919-30-2	1 - <10%
ETHYL BENZENE	100-41-4	0.1 - <1%
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	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 immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, 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.

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.

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 Wear personal protective equipment. 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. 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. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

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

Incompatible products Incompatible with oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
TRIMETHYLBENZENES 25551-13-7	TWA: 25 ppm	TWA: 25 ppm TWA: 125 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
N-BUTANOL (SKIN) 71-36-3	TWA: 20 ppm	Skin Ceiling: 50 ppm Ceiling: 150 mg/m ³ TWA: 100 ppm TWA: 300 mg/m ³	1400 ppm
XYLENE 1330-20-7	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 150 ppm STEL: 655 mg/m ³	
ETHYL BENZENE 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³	800 ppm
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

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.

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	Solvent
Appearance	white	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		No information available
Flash point	29.44 °C / 85.00 °F	Seta closed cup
Evaporation rate		No data available
Flammability (solid, gas)	No data available	
Flammability Limit in Air		No data available
Upper flammability limit	11.0%	
Lower flammability limit	1.0%	
Vapor pressure	31.1	mmHg @ 20°C
Vapor density	4.2	
Specific gravity	1.56	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	13.24012 lbs/gal
Volatile organic compounds (VOC) content	3.533 lbs/gal
Total volatiles weight percent	28.21 %
Total volatiles volume percent	55.00 %
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 acids, Strong 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.

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. May be harmful if inhaled.
Eye contact	Causes serious eye damage.
Skin contact	Irritating to skin. May cause sensitization by skin contact.
Ingestion	May be harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
PETROLEUM SOLVENT (NAPHTHA) 64742-95-6	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
TRIMETHYLBENZENES 25551-13-7	= 8970 mg/kg (Rat)	-	-
tert-BUTYL ACETATE 540-88-5	= 4100 mg/kg (Rat)	> 2000 mg/kg (Rabbit) > 2 g/kg (Rabbit)	> 2230 mg/m ³ (Rat) 4 h = 13300 mg/m ³ (Rat) 4 h
N-BUTANOL (SKIN) 71-36-3	= 700 mg/kg (Rat) = 790 mg/kg (Rat)	= 3402 mg/kg (Rabbit) = 3400 mg/kg (Rabbit)	> 8000 ppm (Rat) 4 h
1,2,4-TRIMETHYLBENZENE 95-63-6	= 3280 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m ³ (Rat) 4 h
XYLENE 1330-20-7	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit) > 1700 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
ORGANOSILANE ESTER 919-30-2	= 1780 mg/kg (Rat)	= 4 mL/kg (Rabbit)	-
ETHYL BENZENE 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.4 mg/L (Rat) 4 h
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. Irritating to eyes and skin. Skin disorders. Eye Damage.

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

Chronic Toxicity Where exposure may occur, engineering and administrative controls must be instituted to maintain an exposure level below 0.2 mg/m³ for benzene soluble coal tar pitch volatiles and

PPAH's (particulate polycyclic aromatic hydrocarbons). If these controls are not adequate, the use of an appropriate NIOSH/MSHA approved respirator is required. Avoid all skin and eye contact. May cause cancer. Substances known to impair fertility. Skin sensitizer. May cause sensitization of susceptible persons.

Sensitization**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
XYLENE 1330-20-7		Group 3	-	
ETHYL BENZENE 100-41-4	A3	Group 2B	-	X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X

Reproductive effects

Suspected of damaging fertility or the unborn child.

STOT - single exposure

No information available

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure

Target organ effects

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

Aspiration hazard

No information available.

Acute Toxicity

72.1 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

72.4 % 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
PETROLEUM SOLVENT (NAPHTHA) 64742-95-6		9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50
TRIMETHYLBENZENES 25551-13-7		7.72: 96 h Pimephales promelas mg/L LC50 flow-through	
tert-BUTYL ACETATE 540-88-5		296 - 362: 96 h Pimephales promelas mg/L LC50 flow-through	
N-BUTANOL (SKIN) 71-36-3	500: 72 h Desmodemus subspicatus mg/L EC50 500: 96 h Desmodemus subspicatus mg/L EC50	100000 - 500000: 96 h Lepomis macrochirus µg/L LC50 static 1730 - 1910: 96 h Pimephales promelas mg/L LC50 static 1740: 96 h Pimephales promelas mg/L LC50 flow-through 1910000: 96 h Pimephales promelas µg/L LC50 static	1897 - 2072: 48 h Daphnia magna mg/L EC50 Static 1983: 48 h Daphnia magna mg/L EC50
1,2,4-TRIMETHYLBENZENE 95-63-6		7.19 - 8.28: 96 h Pimephales promelas mg/L LC50 flow-through	6.14: 48 h Daphnia magna mg/L EC50
XYLENE 1330-20-7		LC50= 13.4 mg/L Pimephales promelas 96 h LC50 2.661 - 4.093 mg/L Oncorhynchus mykiss 96 h LC50 13.5 - 17.3 mg/L Oncorhynchus mykiss 96 h LC50 13.1 - 16.5 mg/L Lepomis macrochirus 96 h LC50= 19 mg/L Lepomis macrochirus 96 h LC50 7.711 - 9.591 mg/L Lepomis macrochirus 96 h LC50 23.53 - 29.97 mg/L Pimephales promelas 96 h LC50= 780 mg/L Cyprinus carpio 96 h LC50 > 780 mg/L Cyprinus carpio 96 h LC50 30.26 - 40.75 mg/L Poecilia reticulata 96 h	EC50 = 3.82 mg/L 48 h LC50 = 0.6 mg/L 48 h
ETHYL BENZENE 100-41-4	1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 4.6:	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 9.1 - 15.6: 96 h	1.8 - 2.4: 48 h Daphnia magna mg/L EC50

	72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50	Pimephales promelas mg/L LC50 static 32: 96 h Lepomis macrochirus mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 9.6: 96 h Poecilia reticulata mg/L LC50 static	
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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
N-BUTANOL (SKIN) 71-36-3	0.785
1,2,4-TRIMETHYLBENZENE 95-63-6	3.63
XYLENE 1330-20-7	2.77
ETHYL BENZENE 100-41-4	3.118

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
N-BUTANOL (SKIN) 71-36-3		Included in waste stream: F039		U031
XYLENE 1330-20-7		Included in waste stream: F039		U239
ETHYL BENZENE 100-41-4		Included in waste stream: F039		

California Hazardous Waste Status

Chemical name	CAWAST
N-BUTANOL (SKIN) 71-36-3	Toxic
XYLENE 1330-20-7	Toxic Ignitable
ETHYL BENZENE 100-41-4	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no. 1263
 Proper Shipping Name paint
 Hazard Class 3
 Packing Group III
 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 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
XYLENE	
ETHYL BENZENE	

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
N-BUTANOL (SKIN) - 71-36-3	1.0
1,2,4-TRIMETHYLBENZENE - 95-63-6	1.0
XYLENE - 1330-20-7	1.0
ETHYL BENZENE - 100-41-4	0.1

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

Clean Water Act

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
tert-BUTYL ACETATE 540-88-5				X
XYLENE	100 lb			X

1330-20-7				
ETHYL BENZENE 100-41-4	1000 lb	X	X	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
N-BUTANOL (SKIN) 71-36-3	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
XYLENE 1330-20-7	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
ETHYL BENZENE 100-41-4	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

California Prop. 65

:This product can expose you to the following chemicals which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Chemical name	California Prop. 65
ETHYL BENZENE - 100-41-4	Carcinogen
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Chemical name	New Jersey	Massachusetts	Pennsylvania
TRIMETHYLBENZENES 25551-13-7	X	X	X
tert-BUTYL ACETATE 540-88-5	X	X	X
N-BUTANOL (SKIN) 71-36-3	X	X	X
1,2,4-TRIMETHYLBENZENE 95-63-6	X	X	X
XYLENE 1330-20-7	X	X	X
ETHYL BENZENE 100-41-4	X	X	X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	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
 Revision Date 05-Jun-2017

Revision Summary
 1 9 4 5 6 7 10 8 11 14 15 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