



SAFETY DATA SHEET

Eco-MPE™ / Eco-PT™ Topcoat - Part B

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Directives

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	Eco-MPE™ / Eco-PT Topcoat - Part B
SYNONYMS:	Aliphatic Amine
CAS#:	Mixture
PRODUCT #:	370502, 370505, 370652, 9003403, 9003785
PRODUCT USE:	Epoxy curing agent for Eco-MPE™, Eco-PT™ Topcoat, Eco-HF™, or Eco-CEP™
CHEMICAL SHIPPING NAME/CLASS:	Corrosive liquid, basic, organic, n.o.s., (Contains Aliphatic Amine)
U.N. NUMBER:	UN3267
NORTH AMERICA:	
MANUFACTURER'S NAME:	Tennant Company
ADDRESS:	701 North Lilac Drive, P.O. Box 1452, Minneapolis, MN 55440-1452
BUSINESS PHONE:	1-763-540-1200
EUROPE:	
MANUFACTURER'S NAME:	Tennant Benelux N.V.
ADDRESS:	Plantin & Moretuslie 220, B2018 Antwerpen
BUSINESS PHONE:	00800-225-836
EMERGENCY PHONE:	800-424-9300 (ChemTrec U.S. – 24Hrs) 1-703-537-3887 (Chemtrec Europe – 24 Hrs)
EMAIL:	info@tennantco.com
DATE OF CURRENT REVISION:	March 6, 2014
DATE OF LAST REVISION:	New

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a light yellow liquid with an ammonia odor.

Health Hazards: Corrosive: may cause severe irritation, redness, blister formation and/or possible tissue destruction. Extremely irritating to eyes with possible permanent damage. May cause respiratory irritation upon inhalation of heated vapors. Ingestion may cause burning of the mouth, throat and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst, weakness and collapse. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

Flammability Hazards: This product is a Non-Flammable liquid with a flash point of >200°F (93°C)

Reactivity Hazards: None known

Environmental Hazards: The Environmental effects of this product have not been investigated. Release of this product may have significant adverse effects in the aquatic environment.

US DOT SYMBOLS



CANADA (WHMIS) SYMBOLS



EUROPEAN and (GHS) Hazard Symbols



Signal Word: **Danger!**

EU LABELING AND CLASSIFICATION:

This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

EU HAZARD CLASSIFICATION OF INGREDIENTS PER DIRECTIVE 1272/2008/EC:

Index Number:

CAS# 9046-10-0 is not listed in ESIS

EC# 201-245-8 Annex I Index# 604-030-00-0

EC# 202-859-9 Annex I Index# 603-057-00-5

EC# 221-793-1 This substance is not classified in the Annex I of Directive 67/548/EEC

EC# 221-793-1 This substance is not classified in the Annex I of Directive 67/548/EEC

EC# 215-535-7 Annex I Index# 601-022-00-9

Substances not listed either individually or in group entries must be self classified.



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Component(s) Contributing to Classification(s)

All Components

GHS Hazard Classification(s):

Reproductive Toxicity Category 2
Acute Inhalation Toxicity Category 4
Acute Oral Toxicity Category 4
Eye Irritant Category 2
Skin Irritant Category 2
Eye Damage Category 1
Skin Sensitization Category 1
Acute Dermal Toxicity Category 4

Hazard Statement(s):

H302: Harmful if swallowed
H312: Harmful in contact with skin
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H318: Causes serious eye damage
H332: Harmful if inhaled
H335: May cause respiratory irritation
H361: Suspected of damaging fertility or the unborn child

Precautionary Statement(s):

P202: Do not handle until all safety precautions have been read and understood
P260: Do not breathe dust/fume/vapor/mist/spray
P264: Wash thoroughly after handling.
P281: Use personal protective equipment as required.

EU HAZARD CLASSIFICATION OF INGREDIENTS PER DIRECTIVE 1999/45/EC:

[Xn] Harmful, [Xi] Irritant

Risk Phrases:

R20/22: Harmful by inhalation and if swallowed
R36/37/38: Irritating to eyes, respiratory system and skin
R41: Risk of serious damage to eyes
R43: May cause sensitization by skin contact
R52: Harmful to aquatic organisms
R62: Possible risk of impaired fertility

Safety Phrases:

S24/25: Avoid contact with skin and eyes
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S39: Wear suitable eye/face protection
S61: Avoid release to the environment
S62: if swallowed, do not induce vomiting: seek medical advice immediately and show container label

HEALTH HAZARDS OR RISKS FROM EXPOSURE:

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of overexposure for this product are by contact with skin or eyes, inhalation of vapors and ingestion. The symptoms of overexposure are described below.

ACUTE:

INHALATION: Inhalation of vapors from heated material may cause respiratory irritation. Contains materials that have the potential to cause headaches, nausea, and dizziness.

CONTACT WITH SKIN: Corrosive: may cause severe irritation, redness, blister formation and/or possible tissue destruction.

EYE CONTACT: Extremely irritating to eyes with possible permanent damage. During application of this product, contact lenses should not be worn.

INGESTION: Ingestion may cause burning of the mouth, throat and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst, weakness and collapse. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

CHRONIC: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

TARGET ORGANS: Acute: Skin, Respiratory System and Eyes

Chronic: Reproductive System



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3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients:	WT%	CAS#	EINECS #	Hazard Classification	Risk Phrases
Aliphatic Ether Amine	50 – 60%	9046-10-0	Not Listed in ESIS	[Xi] Irritant	R36/38
Bisphenol A	20 – 30%	80-05-7	201-245-8	[Xn] Harmful, [Xi] Irritant	R62, R37, R41, R43, R52
Benzyl Alcohol	10 – 20%	100-51-6	202-859-9	[Xn] Harmful	R20/22
Aliphatic Amine	1 – 5%	3236-54-2	221-793-1	[Xi] Irritant	R36/38
Aliphatic Amine	1 – 5%	3236-53-1	221-792-6	[Xi] Irritant	R36/38
Xylene (Mixed)	<1%	1330-20-7	215-535-7	[F] Flammable, [Xn] Harmful, [Xi] Irritant	R10, R20/21, R38
Balance of other ingredients is less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).					

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard JIS Z 7250: 2000.

4. FIRST-AID MEASURES

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention immediately.

SKIN CONTACT: Wash skin thoroughly with soap and water after handling. Seek medical attention if irritation develops and persists.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

INGESTION: If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Some individuals may develop skin sensitization from prolonged skin contact.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Non-Flammable with flash point >200°F

AUTOIGNITION TEMPERATURE: Not Applicable

FLAMMABLE LIMITS (in air by volume, %): Lower NA Upper NA

FIRE EXTINGUISHING MATERIALS: Use fire extinguishing methods below:

Water Spray: Yes

Carbon Dioxide: Yes

Foam: Yes

Dry Chemical: Yes

Halon: Yes

Other: Any "C" Class

NOTE: Water or foam may cause frothing

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep containers tightly closed when not in use. Keep away from heat, sparks or open flame. Closed containers may explode when exposed to extreme heat. Do not apply to hot surfaces.

Explosion Sensitivity to Mechanical Impact: No

Explosion Sensitivity to Static Discharge: No

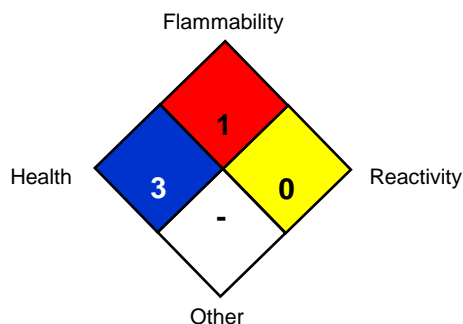
SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



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NFPA RATING SYSTEM



HAZARDOUS MATERIAL IDENTIFICATION SYSTEM	
HEALTH HAZARD (BLUE)	3
FLAMMABILITY HAZARD (RED)	1
PHYSICAL HAZARD (YELLOW)	0
PROTECTIVE EQUIPMENT	
EYES	RESPIRATORY
	See Sect 8
HANDS	BODY
	See Sect 8
For Routine Industrial Use and Handling Applications	

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Stop the flow of material, if this can be done safely. Contain discharged material. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Place in a proper container for disposal. Keep spilled material out of all sewers and open bodies of water. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Use good hygiene practices.

STORAGE AND HANDLING PRACTICES: Store in original container. Keep container closed. Store in a cool, dry location (below 100°F or 37.5°C). Avoid exposure to ignition sources and incompatible materials.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Chemical Name	CAS#	ACGIH TLV	OSHA TWA
Aliphatic Ether Amine	9046-10-0	Not Listed	Not Listed
Bisphenol A	80-05-7	Not Listed	5 mg/m ³
Benzyl Alcohol	100-51-6	Not Listed	Not Listed
Aliphatic Amine	3236-54-2	Not Listed	Not Listed
Aliphatic Amine	3236-53-1	Not Listed	Not Listed
Xylene (Mixed)	1330-20-7	100 ppm	100 ppm

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below guidelines listed above. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses or chemical splash goggles are recommended to avoid contact. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.



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HAND PROTECTION: Chemical resistant gloves are recommended to prevent contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

BODY PROTECTION: Not required when using this product. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE (Physical State) and COLOR: This product is a light yellow liquid with an ammonia odor.

ODOR: Mild

ODOR THRESHOLD: Not Applicable

pH: Not Applicable

MELTING/FREEZING POINT: Not Available

BOILING POINT: 430°F (221°C)

FLASH POINT: >200°F

EVAPORATION RATE (n-BuAc=1): Not Available

FLAMMABILITY (SOILD, GAS): Not Applicable

UPPER/LOWER FLAMMABILITY OR EXLOSION LIMITS: Not Applicable

VAPOR PRESSURE (mm Hg @ 20°C (68°F): Not Available

VAPOR DENSITY: Not Available

RELATIVE DENSITY: Not Available

DENSITY: 1.0 kg/L

SOLUBILITY IN WATER: Appreciable

WEIGHT PER GALLON: Not Available

PARTITION COEFFICIENT (n-octanol/water): Not Available

AUTO-IGNITION TEMPERATURE: Not Applicable

DECOMPOSITION TEMPERATURE: Not Available

VISCOSITY: Not Available

VOC g/l / Lb/gal: 2 / 0.02

10. STABILITY and REACTIVITY

STABILITY: Stable under conditions of normal storage and use.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products include carbon dioxide, carbon monoxide and nitrogen oxides.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong acids and oxidizing agents

POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.

CONDITIONS TO AVOID: Incompatible materials

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

Aliphatic Ether Amine CAS# 9046-10-0

Oral rat LD50: 2880 mg/kg

Skin rabbit LD50: 2980 mg/kg

Bisphenol A CAS# 80-05-7

Oral rat LD50: 4100 mg/kg

Skin rabbit LD50: 3000 mg/kg

Benzyl Alcohol CAS# 100-51-6

Oral rat LD50: 1230 – 3100 mg/kg

Skin rabbit LD50: 2000 mg/kg



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SUSPECTED CANCER AGENT: None of the ingredients within this product are found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product may be irritating to skin, eyes or respiratory system.

SENSITIZATION TO THE PRODUCT: This product may be a skin sensitizer

REPRODUCTIVE TOXICITY INFORMATION: No information concerning the effects of this product and its components on the human reproductive system.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: No specific data available on this product.

CHEMICAL EFFECT ON PLANTS, ANIMALS AND AQUATIC LIFE: This product is expected to cause significant harm to plants, animals or aquatic life.

WATER ENDANGERMENT CLASS: Not water endangering in accordance with EU Guideline 91/155-EWG

SPECIFIC AVAILABLE COMPONENT INFORMATION:

Benzyl Alcohol: Toxicity to fish LC50 - *Lepomis macrochirus* (Bluegill) - 10 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 55 mg/l - 24 h

Bisphenol A: Toxicity to fish flow-through test LC50 - *Cyprinodon variegatus* (sheepshead minnow) - 11 mg/l - 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates static test EC50 - *Daphnia magna* (Water flea) - 10.2 mg/l - 48 h

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

EU Waste Code: Not determined

14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS: This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

PROPER SHIPPING NAME: Corrosive liquid, basic, organic, n.o.s. (Contains Aliphatic Amine)

HAZARD CLASS NUMBER and DESCRIPTION: Class 8 Corrosive

UN IDENTIFICATION NUMBER: UN 3267

PACKING GROUP: PGI

DOT LABEL(S) REQUIRED: Corrosive

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER: 153

RQ QUANTITY: None

MARINE POLLUTANT: The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is considered as dangerous goods.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is considered as dangerous goods.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is considered by the United Nations Economic Commission for Europe to be dangerous goods.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

SARA 313 Reporting: Bisphenol A CAS# 80-05-7 <30%, Xylene CAS# 1330-20-7 <1%



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U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Xylene CAS# 1330-20-7 100 Lb RQ

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory or are exempted from listing.

OTHER U.S. FEDERAL REGULATIONS: None

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): None of the ingredients within this product are on the Proposition 65 Lists.

CANADIAN REGULATIONS:

CANADIAN DSL/NDL INVENTORY STATUS: The components of this product are on the DSL Inventory, or are exempted from listing.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product is a Class D2B, Materials causing other toxic effects and Class E Corrosive material, per WHMIS Controlled Product Regulations

EUROPEAN ECONOMIC COMMUNITY INFORMATION:

This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

See Section 2 for Details

AUSTRALIAN INFORMATION FOR PRODUCT: The components of this product are listed on the International Chemical Inventory list.

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

JAPANESE ENCS INVENTORY: The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): Listed

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed

Swiss Giftlist List of Toxic Substances: Listed

U.S. TSCA: Listed

16. OTHER INFORMATION

PREPARED BY: Paul Eigbrett – **(GHS MSDS Compliance PLUS)**

DATE OF PRINTING: March 6, 2014

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Tennant Company assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Tennant Company assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

END OF SDS SHEET