

PRO-SET® HTP-288 Hardener

Safety Data Sheet

According to the Hazardous Products Regulation (February 11, 2015)

Issue date: 06/16/2020

Revision date: 06/16/2020

Version: HTP-288-2020a

SECTION 1: Identification

Identification

Product name : PRO-SET® HTP-288 Hardener
Product code : HTP-288

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Curing agent for epoxy resins

Details of the supplier of the safety data sheet

Manufacturer

Gougeon Brothers, Inc
100 Patterson Ave.
Bay City, MI 48706 - U.S.A.
T 888-377-6738 or 989-684-7286
www.prosetepoxy.com

Distributor

Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300
CHEMTREC International +1 (703) 527-3887 24 hr

SECTION 2: Hazard identification

Classification of the substance or mixture

Acute Tox. 4 (Oral)
Skin Corr. 1B
Eye Dam. 1
Skin Sens. 1
Carc. 2
Aquatic Acute 1
Aquatic Chronic 1

Label elements

Hazard pictograms (GHS)



Signal word (GHS)

Danger

Hazard statements (GHS)

Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. . Suspected of causing cancer. Very toxic to aquatic life with long lasting effects.

Precautionary statements (GHS)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Immediately call a poison center or doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Collect spillage. Store locked up. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Other hazards

No additional information available

Unknown acute toxicity

Not applicable

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SECTION 3: Composition/information on ingredients

Substances

Not applicable

Mixtures

Name	Product identifier	HPR %
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	(CAS-No.) 57214-10-5	15 - 40
Trimethylolpropane polyoxypropylenetriamine	(CAS-No.) 39423-51-3	10 - 30
1,3-Benzenedimethanamine	(CAS-No.) 1477-55-0	10 - 30
1H-Imidazole, 2-ethyl-4-methyl-	(CAS-No.) 931-36-2	5 - 10
4-Methylimidazole	(CAS-No.) 822-36-6	0.1 - 1.0

The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as confidential business information (CBI). Any ingredient not disclosed in this section may have been determined not to be hazardous to health or the environment, or it may be present at a level below its disclosure threshold. Refer to Section 15 for additional information regarding this CBI claim.

SECTION 4: First-aid measures

Description of first aid measures

- First-aid measures after inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediately call a POISON CENTER/doctor.
- First-aid measures after skin contact** : IF ON SKIN: Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTER/doctor.
- First-aid measures after eye contact** : 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/doctor.
- First-aid measures after ingestion** : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Immediately call a POISON CENTER/doctor.

Most important symptoms and effects, both acute and delayed

- Symptoms/effects after inhalation** : At high concentrations, the vapours can be irritating to the respiratory system.
- Symptoms/effects after skin contact** : Causes severe burns. Redness. Irritation. May cause an allergic skin reaction. May cause sensitisation by skin contact.
- Symptoms/effects after eye contact** : Causes serious eye burns. Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion** : Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause burns to mouth, throat and stomach.
- Chronic symptoms** : Suspected of causing cancer.

Indication of any immediate medical attention and special treatment needed

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Foam. Carbon dioxide. Dry chemical.
- Unsuitable extinguishing media** : Do not use a direct water stream.

Special hazards arising from the substance or mixture

- Fire hazard** : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Products of combustion may include, and are not limited to: oxides of carbon. Oxides of nitrogen. Volatile amines. Ammonia. When mixed with sawdust, wood chips, or other cellulosic material, spontaneous combustion can occur under certain conditions. Heat is generated as the air oxidizes the amine. If the heat is not dissipated quickly enough, it can ignite the sawdust.
- Reactivity** : No dangerous reactions known under normal conditions of use. A mass of more than one pound of product plus an epoxy resin will cause irreversible polymerization with significant heat buildup and pressure.

Advice for firefighters

- Firefighting instructions** : Do not allow run-off from fire-fighting to enter drains or water courses.
- Protection during firefighting** : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

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SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

For non-emergency personnel

No additional information available

For emergency responders

No additional information available

Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

Methods and material for containment and cleaning up

For containment : Stop leak without risks if possible. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment. Do not use sawdust, wood chips or other cellulosic materials to absorb the spill, as the possibility for spontaneous combustion exists. Collect spillage.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Warm, soapy water or non-flammable, safe solvent may be used to clean residual. Provide ventilation.

Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Ensure adequate ventilation. Avoid skin and eye contact. When mixed with epoxy resin this product causes an exothermic reaction, which in large masses, can produce enough heat to damage or ignite surrounding materials and emit fumes and vapors that vary widely in composition and toxicity. Do not swallow. Handle and open container with care. When using do not eat or drink.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store locked up. Store in a cool, dry location. Avoid high temperatures. Protect from moisture. Store at temperatures above 40°F (4°C). Store at temperatures below 90°F (32°C).

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredient Name	CAS#	Exposure Limit Information
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	57214-10-5	No data available
Trimethylolpropane polyoxypropylenetriamine	39423-51-3	No data available
1,3-Benzenedimethanamine	1477-55-0	0.1 mg/m ³ SKIN, Ceiling NIOSH; OSHA Z1A Remarks: potential for skin absorption
1H-Imidazole, 2-ethyl-4-methyl-	931-36-2	No data available
4-Methylimidazole	822-36-6	No data available

Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Hand protection : Wear suitable gloves resistant to chemical penetration. Nitrile rubber gloves. Neoprene rubber gloves.

Eye protection : Chemical goggles or face shield. Wear eye/face protection.

Skin and body protection : Wear suitable protective clothing.

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Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	: Avoid release to the environment.
Other information	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Provide readily accessible eye wash stations and safety showers. Do not wear contact lenses.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous liquid
Colour	: Amber
Odour	: Ammonia
Odour threshold	: No data available
pH	: 10.59
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 400 °F (204 °C) estimated based on similar product
Flash point	: > 200 °F (93 °C) estimated based on ingredient data
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: < 13.75 @ 21 °C (based on ingredient data)
Relative vapour density at 20 °C	: No data available
Relative density	: 1.06
Density	: 8.83 lb/gal (1.06 kg/L)
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: 849 mm ² /s @ 22 °C
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

Other information

VOC Content	: 2.0 g/L
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SECTION 10: Stability and reactivity

Reactivity	: No dangerous reactions known under normal conditions of use. A mass of more than one pound of product plus an epoxy resin will cause irreversible polymerization with significant heat buildup and pressure.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Heat. Incompatible materials.
Incompatible materials	: Organic acids. Mineral acids. oxidizing materials. halogenated organics. Nitrosating agents. Sodium hypochlorite.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon. Toxic fumes. Oxides of nitrogen. Volatile amines. Ammonia.

SECTION 11: Toxicological information

Information on toxicological effects

Ingredient Name	CAS#	LD ₅₀ Oral	LD ₅₀ Dermal	LC ₅₀ Inhalation
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	57214-10-5	No data	No data	No data

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Trimethylolpropane polyoxypropylenetriamine	39423-51-3	550 mg/kg	>1000 mg/kg	No data available
1,3-Benzenedimethanamine	1477-55-0	1030 mg/kg	>2000	>5.01 mg/l 4h mist
1H-Imidazole, 2-ethyl-4-methyl-	931-36-2	731-1000 mg/kg	>400 mg/kg	No data
4-Methylimidazole	822-36-6	350-751 mg/kg	440 mg/kg	No data

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.
Skin corrosion/irritation	: Causes severe skin burns. pH: 10.59
Serious eye damage/irritation	: Causes serious eye damage. pH: 10.59
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Suspected of causing cancer.

4-Methylimidazole (822-36-6)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity	: Not classified.
STOT-single exposure	: Not classified.
STOT-repeated exposure	: Not classified.
Aspiration hazard	: Not classified.

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Viscosity, kinematic (calculated value)	849 mm ² /s @ 22 °C

Symptoms/effects after inhalation	: At high concentrations, the vapours can be irritating to the respiratory system.
Symptoms/effects after skin contact	: Causes severe burns. Redness. Irritation. May cause an allergic skin reaction. May cause sensitisation by skin contact.
Symptoms/effects after eye contact	: Causes serious eye burns. Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause burns to mouth, throat and stomach.
Chronic symptoms	: Suspected of causing cancer.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

Toxicity

Ecology - general	: Very toxic to aquatic life with long lasting effects.
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Persistence and degradability

PRO-SET® HTP-288 Hardener	
Persistence and degradability	Not established.

Bioaccumulative potential

PRO-SET® HTP-288 Hardener	
Bioaccumulative potential	Not established.

4-Methylimidazole (822-36-6)	
Partition coefficient n-octanol/water	0.35 (at 25 °C)

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Mobility in soil

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Ecology - soil	No additional information available.

Other adverse effects

Ingredient	CAS#	Ecotoxicity Classification Information
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	57214-10-5	Acute Aquatic Cat. 2; Chronic Aquatic Cat. 2
Trimethylolpropane polyoxypropylenetriamine	39423-51-3	Acute Aquatic Cat. 2; Chronic Aquatic Cat. 2
1,3-Benzenedimethanamine	1477-55-0	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 3
1H-Imidazole, 2-ethyl-4-methyl-	931-36-2	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 3
4-Methylimidazole	822-36-6	Not classified

Other information : No other effects known.

SECTION 13: Disposal considerations

Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Can be incinerated according to local regulations. Recover and recycle product if possible.

SECTION 14: Transport information

Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

UN-No. (TDG) : UN2735
Packing group : II
TDG Primary Hazard Classes : 8 - Class 8 - Corrosives
Transport document description : UN2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S., 8, II
Proper Shipping Name (Transportation of Dangerous Goods) : POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Benzene-1,3-dimethanamine-)

Hazard labels (TDG) :



Marine pollutant

: Yes (IMDG/IATA)



Transport information/DOT

In accordance with DOT

UN-No.(DOT) : UN2735
Proper Shipping Name (DOT) : Polyamines, liquid, corrosive, n.o.s. (Benzene-1,3-dimethanamine-)
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : II

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Air and sea transport

IMDG

UN-No. (IMDG)	: 2735
Proper Shipping Name (IMDG)	: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Benzene-1,3-dimethanamine-)
Transport document description (IMDG)	: UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S., 8, II
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: II - substances presenting medium danger
EmS-No. (1)	: F-A, S-B

IATA

UN-No. (IATA)	: 2735
Proper Shipping Name (IATA)	: Polyamines, liquid, corrosive, n.o.s. (Benzene-1,3-dimethanamine-)
Transport document description (IATA)	: UN 2735 Polyamines, liquid, corrosive, n.o.s., 8, II
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: II - Medium Danger

SECTION 15: Regulatory information

Federal regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

1,3-Benzenedimethanamine (1477-55-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Trimethylolpropane polyoxypropylenetriamine (39423-51-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine) (57214-10-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance. XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
4-Methylimidazole (822-36-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
1H-Imidazole, 2-ethyl-4-methyl- (931-36-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Canada WHMIS Confidential Business Information (CBI): No data available

International regulations

No additional information available

US State regulations

4-Methylimidazole (822-36-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	29 µg/day
1,3-Benzenedimethanamine (1477-55-0)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				

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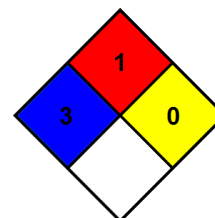
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SECTION 16: Other information

Issue date : 06/16/2020
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Version : HTP-288-2020a
Other information : None.

NFPA health hazard : 3
NFPA fire hazard : 1
NFPA reactivity : 0



Hazard Rating
Health : 3 Serious Hazard
Flammability : 1 Slight Hazard
Physical : 0 Minimal Hazard

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.