



# SAFETY DATA SHEET

Revision date 28-Mar-2025

Revision Number 1

## Section 1: Identification: Product identifier and chemical identity

### Product identifier

Product Name PART B: HT Hardener

Product Code(s) FG-916B

### Other means of identification

Safety data sheet number FG-916B

Pure substance/mixture Mixture

### Recommended use of the chemical and restrictions on use

Recommended use Epoxy Curative.

Uses advised against No information available.

### Details of manufacturer or importer

#### Supplier

Smooth-On, Inc, 5600 Lower Macungie Rd, Macungie, PA 18062, USA, Phone: +01.610.252.5800, www.smooth-on.com, sds@smooth-on.com

For further information, please contact

Contact Point Product Safety Department

E-mail address sds@smooth-on.com

### Emergency telephone number

Emergency telephone number CHEMTEL +01-813-248-0585  
Australia Poisons Information Centre: 13 11 26

## Section 2: Hazard(s) identification

### GHS Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

### Label elements

Exclamation mark  
Health hazard  
Corrosion



**Signal word**  
DANGER

**Hazard statements**

Harmful if swallowed.  
Harmful in contact with skin.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not breathe dust.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves.

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor.  
Get medical advice/attention if you feel unwell.  
Immediately call a POISON CENTER or doctor.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF ON SKIN: Wash with plenty of water and soap.  
Call a POISON CENTER or doctor if you feel unwell.  
Take off contaminated clothing and wash it before reuse.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
Wash contaminated clothing before reuse.  
If skin irritation or rash occurs: Get medical advice/attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Immediately call a POISON CENTER or doctor.  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
Rinse mouth.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**Precautionary Statements - Storage**

Store locked up.

**Precautionary Statements - Disposal**

Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

**Other hazards which do not result in classification**

No information available.

### Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Diethyltoluenediamine	68479-98-1	30 - 60
Cyclohexanamine, 4,4-methylenebis-	1761-71-3	30 - 60
Diethylenetriamine	111-40-0	15 - 40
1-Piperazineethanamine	140-31-8	0.1 - 1

### Section 4: First aid measures

**Description of first aid measures**

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<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	Burning sensation. Itching. Rashes. Hives.
<b>Effects of Exposure</b>	May cause damage to organs through prolonged or repeated exposure.

**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.
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**Section 5: Firefighting measures****Suitable Extinguishing Media**

**Suitable extinguishing media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.

**Special protective actions for fire-fighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Section 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Section 7: Handling and storage, including how the chemical may be safely used**

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.

**Incompatible materials** Acids. Bases. Oxidizing agent.

**Section 8: Exposure controls and personal protection**

**Working area parameters, subject to mandatory control (MAC or TSEL)**

**Exposure Limits**

Chemical name	Australia	New Zealand	ACGIH TLV
Diethylenetriamine 111-40-0	TWA: 1 ppm TWA: 4.2 mg/m <sup>3</sup>	TWA: 1 ppm TWA: 4.2 mg/m <sup>3</sup>	TWA: 1 ppm Sk*

		Sk*	
Chemical name	European Union	United Kingdom	Germany DFG
Diethylenetriamine 111-40-0	-	TWA: 1 ppm TWA: 4.3 mg/m <sup>3</sup> STEL: 3 ppm STEL: 12.9 mg/m <sup>3</sup> Sk*	skin sensitizer

**Biological occupational exposure limits** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles. Face protection shield.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Respiratory protection** Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls** No information available.

**Thermal hazards** No information available.

**Section 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

**Physical state** Liquid  
**Appearance** Amber Liquid  
**Color** amber  
**Odor** Mild ammonia odor.  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Initial boiling point and boiling range</b>	No data available	None known
<b>Flash point</b>	175 °C / 347 °F	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	f.p. at or above 93.33 °C / 200°F	
<b>Vapor pressure</b>	< 1.0 mmHg @ 20 °C / 70 °F	None known
<b>Relative vapor density</b>	>1	None known
<b>Relative density</b>	1.01	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	No data available	None known

Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

**Other information**

VOC content	No information available
Particle characteristics	No information available

**Section 10: Stability and reactivity****Reactivity**

Reactivity	No information available.
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**Chemical stability**

Stability	Stable under normal conditions.
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**Explosion data**

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

**Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**Conditions to avoid**

Conditions to avoid	Exposure to air or moisture over prolonged periods.
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**Incompatible materials**

Incompatible materials	Acids. Bases. Oxidizing agent.
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**Hazardous decomposition products**

Hazardous decomposition products	None known based on information supplied.
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**Section 11: Toxicological information****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

absorbed through the skin in harmful amounts. Harmful in contact with skin.

**Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

**Acute toxicity** Harmful if swallowed. Harmful by skin contact.

**Numerical measures of toxicity - Product Information**

The following ATE values have been calculated for the mixture

ATEmix (oral) 470.30 mg/kg  
 ATEmix (dermal) 1,382.00 mg/kg  
 ATEmix (inhalation-dust/mist) 70.70 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Diethyltoluenediamine	= 485 mg/kg ( Rat )	= 700 mg/kg ( Rabbit )	-
Cyclohexanamine, 4,4-methylenebis-	= 380 mg/kg ( Rat )	= 2110 mg/kg ( Rabbit )	-
Diethylenetriamine	= 1080 mg/kg ( Rat )	= 672 mg/kg ( Rabbit )	= 70 mg/L ( Rat ) 4 h
1-Piperazineethanamine	= 2140 µL/kg ( Rat )	= 866 mg/kg ( Rabbit )	-

See section 16 for terms and abbreviations

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

**Skin corrosion/irritation**

Classification based on data available for ingredients. Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation**

Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

**Respiratory or skin sensitization**

May cause an allergic skin reaction.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

No information available.

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** No information available.

## Section 12: Ecological information

### Ecotoxicity

#### Aquatic ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Diethylenetriamine	EC50: =1164mg/L (72h, Pseudokirchneriella subcapitata) EC50: =345.6mg/L (96h, Pseudokirchneriella subcapitata) EC50: =592mg/L (96h, Desmodesmus subspicatus)	LC50: =248mg/L (96h, Poecilia reticulata) LC50: =1014mg/L (96h, Poecilia reticulata)	-	EC50: =16mg/L (48h, Daphnia magna)
1-Piperazineethanamine	EC50: =495mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 1950 - 2460mg/L (96h, Pimephales promelas) LC50: >1000mg/L (96h, Poecilia reticulata) LC50: >=100mg/L (96h, Oncorhynchus mykiss)	-	EC50: =32mg/L (48h, Daphnia magna)

**Terrestrial ecotoxicity** There is no data for this product.

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

#### Bioaccumulation

#### Component Information

Chemical name	Partition coefficient
Diethyltoluenediamine	1.4
Cyclohexanamine, 4,4-methylenebis-	2.2
Diethylenetriamine	-1.3
1-Piperazineethanamine	-1.48

### Mobility

**Mobility** No information available.

### Other adverse effects

**Other adverse effects** No information available.



## Section 13: Disposal considerations

### Disposal methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

See section 8 for more information

## Section 14: Transport information

**ADG** Regulated  
**UN number or ID number** 2735  
**UN proper shipping name** Amines, liquid, corrosive, n.o.s. (4,4'-Methylenebiscyclohexanamine, Diethyltoluenediamine)  
**Transport hazard class(es)** 8  
**Packing group** II

**IATA** Regulated  
**UN number or ID number** 2735  
**UN proper shipping name** Amines, liquid, corrosive, n.o.s. (4,4'-Methylenebiscyclohexanamine, Diethyltoluenediamine)  
**Transport hazard class(es)** 8  
**Packing group** II

**IMDG** Regulated  
**UN number or ID number** 2735  
**UN proper shipping name** Amines, liquid, corrosive, n.o.s. (4,4'-Methylenebiscyclohexanamine, Diethyltoluenediamine)  
**Transport hazard class(es)** 8  
**Packing group** II  
**EmS-No.** F-A, S-B

### **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No information available

## Section 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulations

##### Australia

See section 8 for national exposure control parameters

#### **Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

#### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Diethyltoluenediamine - 68479-98-1	Present	-
Cyclohexanamine, 4,4-methylenebis- - 1761-71-3	Present	-
Diethylenetriamine - 111-40-0	Present	-

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
1-Piperazineethanamine - 140-31-8	Present	-

**Illicit Drug Precursors/Reagents**

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

**International Inventories**

<b>AIIC</b>	Contact supplier for inventory compliance status.
<b>NZIoC</b>	Contact supplier for inventory compliance status.
<b>TSCA</b>	Contact supplier for inventory compliance status.
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status.
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.

**Legend:**

- AIIC** - Australian Inventory of Industrial Chemicals
- NZIoC** - New Zealand Inventory of Chemicals
- 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 Chemical Substances/European 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

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**Section 16: Any other relevant information**

**Revision date** 28-Mar-2025

**Revision Note**

\*\*\*Indicates updated data since last publication.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

- SVHC: Substances of Very High Concern for Authorization:
- PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
- vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
- STOT: Specific Target Organ Toxicity
- ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

**Legend Section 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

Environmental Protection Agency

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

National Institute of Technology and Evaluation (NITE)

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

Australian Industrial Chemicals Introduction Scheme (AICIS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of Safety Data Sheet**