



Revision Number: 004.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	HARDENER	IDH number:	343621
Product type:	Epoxy Hardener	Item number:	AB9231
		Region:	United States
Company address:	Contact information:		
Henkel Corporation	Telephone: 860.571.5100		
One Henkel Way	MEDICAL EMERGENCY Phone: Poison Control Center		
Rocky Hill, Connecticut 06067	1-877-671-4608 (toll free) or 1-303-592-1711		
	TRANSPORT EMERGENCY Phone: CHEMTREC		
	1-800-424-9300 (toll free) or 1-703-527-3887		
	Internet: www.henkelna.com		

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	Liquid	HEALTH:	*3
Color:	Clear	FLAMMABILITY:	1
Odor:	Strong, Ammoniacal	PHYSICAL HAZARD:	0
		Personal Protection:	See MSDS Section 8
DANGER:	CAUSES EYE AND SKIN BURNS. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE ALLERGIC RESPIRATORY REACTION. CAUSES RESPIRATORY TRACT IRRITATION.		

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects

Inhalation:	May cause irritation to nose and throat. May cause allergic respiratory reaction.
Skin contact:	May cause allergic skin reaction.
Eye contact:	Severe eye irritation. Burns of the eye may cause blindness.
Ingestion:	May be harmful if swallowed.

Existing conditions aggravated by exposure: Eye, skin and respiratory disorders. Skin allergies. Asthma.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Tetraethylene pentamine	112-57-2	30 - 60
N,N'-Bis(3-aminopropyl)piperazine	7209-38-3	10 - 30
Aluminium hydroxide	21645-51-2	10 - 30
Silica, amorphous, fumed, crystal-free	112945-52-5	5 - 10
Amines, polyethylenepoly-	68131-73-7	1 - 5
3,6,9,12-tetraazatetradecamethylenediamine	4067-16-7	1 - 5
Titanium dioxide	13463-67-7	0.1 - 1
Triethylenetetramine	112-24-3	0.1 - 1

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If symptoms persist, seek medical advice.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. If skin irritation persists, call a physician.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	Keep individual calm. Do not induce vomiting. Drink 1 or 2 glasses of water. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 149 °C (> 300.2 °F)
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen. Acrid smoke and fumes.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Remove all sources of ignition. Isolate area. Keep unnecessary personnel away. Immediately contact emergency personnel.

7. HANDLING AND STORAGE

Handling:	Keep away from heat, spark and flame. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.
Storage:	Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Tetraethylene pentamine	None	None	1 ppm (5 mg/m3) TWA Aerosol. (SKIN) Aerosol. (Skin sensitizer.)	None
N,N'-Bis(3-aminopropyl)piperazine	None	None	None	None
Aluminium hydroxide	10 mg/m3 TWA (as Al) Total dust. 1 mg/m3 TWA Respirable fraction.	15 mg/m3 TWA (as Al) Total dust. 5 mg/m3 TWA (as Al) Respirable fraction.	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Amines, polyethylenepoly-	None	None	None	None
3,6,9,12-tetraazatetradecamethylenediamine	None	None	None	None
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 TWA Total dust.	None	None
Triethylenetetramine	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None

Engineering controls: Use local exhaust ventilation if the potential for airborne exposure exists.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Use a NIOSH approved respirator if ventilation is inadequate.

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Clear
Odor:	Strong, Ammoniacal
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	Not available
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available
Specific gravity:	1.02
Vapor density:	8.45
Flash point:	> 149 °C (> 300.2 °F)
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Slightly soluble
Partition coefficient (n-octanol/water):	Not available
VOC content:	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	None
Incompatible materials:	Oxidizing agents. Water Metals. Acids. Acrylates.
Conditions to avoid:	The exotherm has the potential for release of toxic gasses. Avoid temperatures above 294°C (561°F). Avoid mixing resin (Part A) and curing agent (Part B) unless you plan to use immediately. Failure to observe these precautions may result in excessive heat build-up causing an exotherm.

11. TOXICOLOGICAL INFORMATION

Product toxicity data: Not available

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Tetraethylene pentamine	No	No	No
N,N'-Bis(3-aminopropyl)piperazine	No	No	No
Aluminium hydroxide	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Amines, polyethylenepoly-	No	No	No
3,6,9,12-tetraazatetradecamethylenediamine	No	No	No
Titanium dioxide	No	Group 2B	No
Triethylenetetramine	No	No	No

Hazardous components	Health Effects/Target Organs
Tetraethylene pentamine	Irritant, Mutagen, Allergen
N,N'-Bis(3-aminopropyl)piperazine	No Records
Aluminium hydroxide	Irritant, Lung, Respiratory
Silica, amorphous, fumed, crystal-free	Nuisance dust
Amines, polyethylenepoly-	No Target Organs
3,6,9,12-tetraazatetradecamethylenediamine	Irritant, Allergen
Titanium dioxide	Irritant, Respiratory, Some evidence of carcinogenicity
Triethylenetetramine	Allergen, Corrosive, Developmental, Irritant, Mutagen

12. ECOLOGICAL INFORMATION

Ecological information: Not known.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Amines, liquid, corrosive, n.o.s. (Polyglycol diamine, Tetraethylene pentamine)

Hazard class or division: 8

Identification number: UN 2735

Packing group: II

Exceptions: Consumer Commodity, ORM-D, (Not more than 1 L)

International Air Transportation (ICAO/IATA)

Proper shipping name: Amines, liquid, corrosive, n.o.s. (Polyglycol diamine, Tetraethylene pentamine)
Hazard class or division: 8
Identification number: UN 2735
Packing group: II

Water Transportation (IMO/IMDG)

Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Polyglycol diamine, Tetraethylene pentamine)
Hazard class or division: 8
Identification number: UN 2735
Packing group: II
Marine pollutant: Tetraethylene pentamine

15. REGULATORY INFORMATION**United States Regulatory Information**

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None above reporting de minimus
CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA 313: None above reporting de minimus
California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B, E

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

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