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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: HYSOL ES4412 PART B GAL
Product type: Epoxy Hardener
Company address:
 Henkel Corporation
 211 Franklin Street
 Olean, New York 14760

Item No. : EB4412-B50 / IDH No. 427432
Region: United States
Contact Information:
 Telephone: 716.372.6300
 Emergency Telephone: 860.571.5100
 Internet: www.electronics.henkel.us

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Barium sulfate 7727-43-7	30-60	0.5 mg/m ³ TWA 10 mg/m ³ TWA	0.5 mg/m ³ TWA 0.5 mg/m ³ TWA as Ba 15 mg/m ³ TWA total dust 5 mg/m ³ TWA respirable fraction	None
Amine reacted fatty acid 68953-36-6	30-60	None	None	None
Tetraethylenepentamine 112-57-2	5-10	None	None	5 mg/m ³ , skin, dermal sensitizer TWA, (WEEL)
Epoxy resin/Curing agent 68610-56-0	1-5	None	None	None
4,4'-Isopropylidenediphenol 80-05-7	1-5	None	None	None
Diethylene triamine 111-40-0	1-5	1 ppm TWA (skin)	None	None
Calcium carbonate 1317-65-3	1-5	10 mg/m ³ TWA (particulate matter containing no asbestos and <1% crystalline silica)	15 mg/m ³ TWA total 5 mg/m ³ TWA	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Liquid	HEALTH: 3*
Color: White	FLAMMABILITY: 1
Odor: Ammoniacal	PHYSICAL HAZARD: 0
	Personal Protection: See Section 8

DANGER: MAY CAUSE EYE AND SKIN BURNS.
 MAY BE HARMFUL IF SWALLOWED.
 MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION.
 MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Inhalation, Skin contact, Eye contact, Ingestion

Potential Health Effects

Inhalation: Respiratory tract burns. May cause allergic respiratory reaction.
Skin contact: May cause allergic skin reaction. Can cause pain, burns, necrosis and permanent injury.
Eye contact: Contact can cause pain, burns, necrosis, permanent injury, blindness.
Ingestion: May be harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts. Danger of perforation of the esophagus and the stomach.

Existing conditions aggravated by exposure:

Eye, skin, and respiratory disorders.

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Check for and remove any contact lenses. Get medical attention.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. If vomiting occurs, prevent aspiration by keeping the patient's head below the knees.

5. FIRE-FIGHTING MEASURES

Flash point:	195°C (383°F) Closed cup
Autoignition temperature:	Not determined
Flammable/Explosive limits-lower %:	Not available
Flammable/Explosive limits-upper %:	Not available
Extinguishing media:	Dry chemical. Carbon dioxide (CO ₂). Water spray.
Special fire fighting 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, irritating organic vapors.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Prevent product from entering drains or open waters.
Clean-up methods:	Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Handling:	Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Avoid all ignition sources in storing and handling this material. Keep cool in accordance with label instructions. Wear protective equipment when handling.
Storage:	Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.
Incompatible products:	Refer to Section 10.

For information on product shelf life contact Henkel Customer Service at 1-716-372-6300.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:	Use local exhaust ventilation to maintain airborne concentrations below established exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

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Skin protection: Neoprene, Butyl-rubber, or nitrile-rubber gloves. Cover as much of the exposed skin area as possible with appropriate clothing.

Eye/face protection: Chemical splash goggles or safety glasses with side shields. In a splash hazard environment, chemical goggles should be used in combination with a full face shield.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: White
Odor: Ammoniacal
Vapor pressure: < 1.0 mmHg
pH: Alkaline
Boiling point/range: Not determined
Melting point/range: Not available
Specific gravity: 1.4
Vapor density: 3.5 (air equals 1)
Evaporation rate: Not determined
Solubility in water: Soluble.
Partition coefficient (n-octanol/water): Not available
VOC content: 0%; 0 grams/liter (estimated)

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions

Hazardous polymerization: None under normal processing.

Hazardous decomposition products: None reasonably foreseeable

Incompatibility: Strong oxidizing agents.

Conditions to avoid: Storage with incompatible materials. Keep away from open flames, hot surfaces and sources of ignition.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Barium sulfate 7727-43-7	No	No	No
Amine reacted fatty acid 68953-36-6	No	No	No
Tetraethylenepentamine 112-57-2	No	No	No
Epoxy resin/Curing agent 68610-56-0	No	No	No
4,4'-Isopropylidenediphenol 80-05-7	No	No	No
Diethylene triamine 111-40-0	No	No	No
Calcium carbonate 1317-65-3	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Barium sulfate 7727-43-7	Lung
Amine reacted fatty acid 68953-36-6	No Records
Tetraethylenepentamine 112-57-2	Mutagen, Irritant, Allergen
Epoxy resin/Curing agent 68610-56-0	No data
4,4'-Isopropylidenediphenol 80-05-7	Allergen, Blood, Irritant, Kidney, Spleen, Reproductive
Diethylene triamine 111-40-0	Allergen, Eyes, Irritant
Calcium carbonate 1317-65-3	Nuisance dust

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this section are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

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

Proper shipping name: Tetraethylenepentamine Mixture
Hazard class or division: 8
Identification number: UN 2320
Packing group: III
Exceptions: Consumer Commodity ORM-D (Not more than 5L)

International Air Transportation (ICAO/IATA):

Proper shipping name: Tetraethylenepentamine Mixture
Hazard class or division: 8
Identification number: UN2320
Packing group: III

Water Transportation (IMO/IMDG):

Proper shipping name: Tetraethylenepentamine Mixture
Hazard class or division: 8
Identification number: UN2320
Packing group: III

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.
CERCLA/SARA Section 302 EHS:	None.
CERCLA/SARA Section 311/312:	Immediate Health Hazard, Delayed Health Hazard
CERCLA/SARA 313:	This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). 4,4'-Isopropylidenediphenol (CAS# 80-05-7).
California Proposition 65:	This product contains a chemical known to the State of California to cause cancer.

Canada Regulatory Information

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

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: First issue.

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