



Revision Number: 001.1

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	HYSOL HD3404 GAL	IDH number:	498898
Product type:	Epoxy Hardener	Item number:	HD3404-B50
		Region:	United States
Company address:	Contact information:		
Henkel Corporation	Telephone: 716.372.6300		
211 Franklin Street	Emergency telephone: 860.571.5100		
Olean, New York 14760	Internet: www.electronics.henkel.us		

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

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

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

Potential Health Effects

Inhalation:	Respiratory tract burns. Severe respiratory tract irritation.
Skin contact:	This material is corrosive to eyes and skin. Brief contact may cause chemical burns. Harmful if absorbed through skin. May cause allergic skin reaction.
Eye contact:	Contact can cause pain, burns, necrosis, permanent injury, blindness.
Ingestion:	Ingestion causes burns of the upper digestive and respiratory tracts. May cause kidney, liver, lung, or gastrointestinal abnormalities.

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

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	%
Triethylenetetramine	112-24-3	60 - 100

4. FIRST AID MEASURES

Inhalation:	Move 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 footwear. Get medical attention. Wash clothing before reuse.

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 immediate medical attention. In case of adverse health effects seek medical advice.

5. FIRE FIGHTING MEASURES

Flash point: 118 °C (244.4 °F) Closed cup

Autoignition temperature: Not available

Flammable/Explosive limits - lower: Not available

Flammable/Explosive limits - upper: Not available

Extinguishing media: Alcohol-resistant foam. Carbon dioxide. Dry chemical. Sand. Limestone powder.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: Not available

Hazardous combustion products: Toxic fumes. Ammonia. Oxides of carbon, oxides of nitrogen, irritating organic vapors.

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: 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: 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: Do not store near acids. 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 1-716-372-6300.

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
Triethylenetetramine	None	None	1 ppm (6 mg/m ³) 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).

Eye/face protection: Use of a full face shield is recommended. Wear chemical goggles; face shield (if splashing is possible).

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Amber
Odor: Ammoniacal
Odor threshold: Not available
pH: Alkaline
Vapor pressure: Not available
Boiling point/range: 277 °C (530.6 °F)
Melting point/ range: Not available
Specific gravity: 1.0 Approximately
Vapor density: 5.61 (Air = 1)
Flash point: 118 °C (244.4 °F) Closed cup
Flammable/Explosive limits - lower: Not available
Flammable/Explosive limits - upper: Not available
Autoignition temperature: Not available
Evaporation rate: < 0.1
Solubility in water: Soluble
Partition coefficient (n-octanol/water): Not available
VOC content: < 1 %; < 10 g/l (estimated value for resin and hardener mixed together)

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Hazardous reactions: None under normal processing.

Hazardous decomposition products: CAUTION! N-nitrosamines (many of which are known to be potent carcinogens) may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

Incompatible materials: Sodium hypochlorite. Organic acids. Mineral acids. This product slowly corrodes copper, aluminum, zinc and galvanized surfaces.

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

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Triethylenetetramine	No	No	No

Hazardous components	Health Effects/Target Organs
Triethylenetetramine	Allergen, Corrosive, Developmental, Irritant, Mutagen

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

14. TRANSPORT INFORMATION

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

Proper shipping name: Triethylenetetramine
Hazard class or division: 8
Identification number: UN 2259
Packing group: II

International Air Transportation (ICAO/IATA)

Proper shipping name: Triethylenetetramine
Hazard class or division: 8
Identification number: UN 2259
Packing group: II

Water Transportation (IMO/IMDG)

Proper shipping name: TRIETHYLENETETRAMINE
Hazard class or division: 8
Identification number: UN 2259
Packing group: II

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
CERCLA/SARA 313: None above reporting de minimus

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

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.

Prepared by: Dan Shaw, Regulatory Affairs Specialist

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