



Revision Number: 005.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	HYSOL ES4212, Part A	IDH number:	711737
Product type:	Epoxy resin	Item number:	EA4212
		Region:	United States
Company address:	Contact information:		
Henkel Corporation	Telephone: 1.888.9.HENKEL (1.888.943.6535)		
14000 Jamboree Road	MEDICAL EMERGENCY Phone: Poison Control Center		
Irvine, CA 92606	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:	*2
Color:	Black	FLAMMABILITY:	1
Odor:	Aromatic	PHYSICAL HAZARD:	1
		Personal Protection:	See MSDS Section 8
WARNING:	MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.		

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: May cause respiratory tract irritation. Contains crystalline silica (quartz), which is classified as a possible carcinogen. However, the crystalline silica present in this product is encapsulated in the liquid and will only be liberated if the product is sanded or abraded, and even then what is liberated will not be pure crystalline silica. Appropriate precautions, however, should be taken if the product is sanded or abraded to prevent personnel from breathing the dust.

Skin contact: May cause allergic skin reaction. May cause skin irritation.

Eye contact: May cause irritation.

Ingestion: Not expected under normal conditions of use.

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	%
Limestone	1317-65-3	30 - 60
Epichlorohydrin-4,4'-isopropylidene diphenol resin	25068-38-6	30 - 60
Poly[oxy(methyl-1,2-ethanediyl)], a-(oxiranylmethyl)-w-(oxiranylmethoxy)-	26142-30-3	10 - 30
Silicic acid, aluminum sodium salt	1344-00-9	1 - 5
Quartz (SiO2)	14808-60-7	0.1 - 1
Carbon black	1333-86-4	0.1 - 1

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. If symptoms develop and persist, get medical attention. Wash clothing before reuse.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. 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. If individual is conscious, wash out mouth with water. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	248.9 °C (480.02 °F) Closed cup
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. In case of fire, keep containers cool with water spray.
Unusual fire or explosion hazards:	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
Hazardous combustion products:	Oxides of carbon. Calcium oxide. Irritating organic vapours.

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). Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling:	Use only with adequate ventilation. Keep away from heat, spark and flame. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Refer to Section 8.
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, please review labels on container or check the Technical Data Sheet.

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
Limestone	10 mg/m3 TWA Total dust.	5 mg/m3 TWA Respirable fraction. 15 mg/m3 TWA Total dust.	None	None
Epichlorohydrin-4,4'-isopropylidene diphenol resin	None	None	None	None
Poly[oxy(methyl-1,2-ethanediyl)], a-(oxiranylmethyl)-w-(oxiranylmethoxy)-	None	None	None	None
Silicic acid, aluminum sodium salt	10 mg/m3 TWA Total dust. 1 mg/m3 TWA Respirable fraction.	15 mg/m3 TWA Total dust. 5 mg/m3 TWA Respirable fraction.	None	None
Quartz (SiO ₂)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None
Carbon black	3.5 mg/m3 TWA	3.5 mg/m3 TWA	None	None

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Eye/face protection:	Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.
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:	Black
Odor:	Aromatic
Odor threshold:	Not available
pH:	Not available
Vapor pressure:	Not available
Boiling point/range:	Not available
Melting point/ range:	Not available
Specific gravity:	1.6
Vapor density:	Not available
Flash point:	248.9 °C (480.02 °F) Closed cup
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	< 1.0
Solubility in water:	Insoluble
Partition coefficient (n-octanol/water):	Not available
VOC content:	0 %; 0 g/l Estimated

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.
Hazardous decomposition products:	Oxides of carbon. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents. Strong acids and strong bases. Amines.
Conditions to avoid:	Heat, flames, sparks and other sources of ignition. High temperatures. Direct sunlight. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Limestone	No	No	No
Epichlorohydrin-4,4'-isopropylidene diphenol resin	No	No	No
Poly[oxy(methyl-1,2-ethanediyl)], a-(oxiranylmethyl)-w-(oxiranylmethoxy)-	No	No	No
Silicic acid, aluminum sodium salt	No	No	No
Quartz (SiO ₂)	Known carcinogen.	Group 1	No
Carbon black	No	Group 2B	No

Hazardous components	Health Effects/Target Organs
Limestone	Nuisance dust
Epichlorohydrin-4,4'-isopropylidene diphenol resin	Allergen, Irritant
Poly[oxy(methyl-1,2-ethanediyl)], a-(oxiranylmethyl)-w-(oxiranylmethoxy)-	Irritant, Allergen
Silicic acid, aluminum sodium salt	Irritant
Quartz (SiO ₂)	Immune system, Lung, Some evidence of carcinogenicity
Carbon black	Respiratory, Some evidence of carcinogenicity

12. ECOLOGICAL INFORMATION

Ecological information: Not available

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: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin resin)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A Epichlorhydrin resin)
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III
Marine pollutant:	Bisphenol-A Epichlorhydrin resin

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/NDSL 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

16. OTHER INFORMATION

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

Prepared by: Tricia Voghell, Regulatory Affairs Specialist

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