



MATERIAL SAFETY DATA SHEET

Chemical Product and Company Identification

LABEL IDENTIFIER: Hysol Kit 0151 Epoxy-Patch

PRODUCT IDENTIFIER: P/N 28854 Epoxy Adhesive
P/N 484897 Hydrostatic Retest Marking Kit

COMPANY IDENTIFICATION: MINE SAFETY APPLIANCES COMPANY
P.O. Box 439
Pittsburgh, PA 15230
CUSTOMER SERVICE: 1-800-MSA-2222 (8:30 a.m. – 5:00 p.m., USA local time)
EMERGENCY: 1-800-255-3924 (CHEM-TEL, INC.)

Vendor Information

A Material Safety Data Sheet as furnished by the Henkel Corporation for Epoxy Patch Hysol Kit 0151 Resin and Hardener is attached (10 Pages).

Henkel Corporation MSDS REVISION DATE: 7/22/2009

Other Information

WARNING: This is a hazardous chemical product. By following the directions and warnings provided with this product, the hazards associated with the use of this product can be greatly reduced but never entirely eliminated. Mine Safety Appliances Company makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.

Material Safety Data Sheet



Revision Number: 002.1

Issue date: 07/23/2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Kit 83176 RESIN
Product type: Epoxy resin

IDH number: 702159
Item number: 83176_193035
Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Liquid
Color: Milky, White
Odor: None

HEALTH: *2
FLAMMABILITY: 1
PHYSICAL HAZARD: 0
Personal Protection: See MSDS Section 8

WARNING: MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION.
MAY BE HARMFUL IF SWALLOWED, ABSORBED THROUGH SKIN OR INHALED.
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
COMBUSTIBLE LIQUID AND VAPOR.

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

Potential Health Effects

Inhalation: Allergic respiratory reaction. May be harmful if inhaled. Coughing. Shortness of breath. Mild respiratory tract irritation.
Skin contact: Allergic skin reaction. May be harmful if absorbed through skin. Itching. Redness.
Eye contact: Severe eye irritation. If left untreated, corneal damage can occur and injury is slow to heal.
Ingestion: May be harmful if swallowed.

Existing conditions aggravated by exposure: Eye, skin and respiratory disorders. Skin allergies. Respiratory 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	%
Epichlorohydrin-4,4'-isopropylidene diphenol resin	25068-38-6	60 - 100
Butyl 2,3-epoxypropyl ether	2426-08-6	10 - 30
Silicon dioxide	7631-86-9	1 - 5

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms develop and persist, 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.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Keep individual calm. If symptoms develop and persist, get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93.3 °C (> 199.94 °F) Pensky Martens closed cup
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Extinguishing media:	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:	In case of fire, keep containers cool with water spray. Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
Hazardous combustion products:	Oxides of carbon. Irritating organic fragments. Acids. Aldehydes.

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. Immediately contact emergency personnel. Scrape up as much material as possible. Clean residue with soap and water. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:	Keep away from heat, spark and flame. Do not breathe gas/fumes/vapor/spray. Keep container closed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage:	Store in original container until ready to use. 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
Epichlorohydrin-4,4'-isopropylidene diphenol resin	None	None	None	None
Butyl 2,3-epoxypropyl ether	3 ppm TWA (SKIN) (Sensitizer.)	50 ppm (270 mg/m3) TWA	None	None
Silicon dioxide	6 mg/m3 TWA	20 MPPCF TWA 0.8 mg/m3 TWA	None	3 mg/m3 TWA Respirable fraction.

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Respiratory protection:	Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.
Eye/face protection:	Safety goggles or safety glasses with side shields.
Skin protection:	Chemical resistant, impermeable gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Milky, White
Odor:	None
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	2 mm hg (20 °C (68°F))
Boiling point/range:	140 °C (284°F)
Melting point/ range:	Not available
Specific gravity:	1.13
Vapor density:	Not available
Flash point:	> 93.3 °C (> 199.94 °F) Pensky Martens closed cup
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Not miscible or difficult to mix
Partition coefficient (n-octanol/water):	Not available
VOC content:	< 0.05 % (value for resin and hardener together) (estimated)

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.
Hazardous decomposition products:	None known
Incompatible materials:	Strong acids. Strong bases. Strong oxidizing agents. Amines. Water.
Conditions to avoid:	Avoid temperatures above 38°C (100°F). Excessive heat. Store away from incompatible materials. 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

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Epichlorohydrin-4,4'-isopropylidene diphenol resin	No	No	No
Butyl 2,3-epoxypropyl ether	No	No	No
Silicon dioxide	No	No	No

Hazardous components	Health Effects/Target Organs
Epichlorohydrin-4,4'-isopropylidene diphenol resin	Allergen, Irritant
Butyl 2,3-epoxypropyl ether	Irritant, Allergen, Central nervous system, Liver, Mutagen
Silicon dioxide	Nuisance dust

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

The shipping classifications in this sections 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: Combustible liquid, n.o.s. (n-Butyl glycidyl ether)
Hazard class or division: Combustible Liquid
Identification number: NA 1993
Packing group: III
Exceptions: Not regulated, Up to 450 L max per inner/primary package when shipped as originally packaged only

International Air Transportation (ICAO/IATA)

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

Water Transportation (IMO/IMDG)

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

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, Fire
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: B.3, D.2.A, D.2.B

Material Safety Data Sheet



Revision Number: 002.1

Issue date: 07/22/2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Kit 83176 HARD
Product type: Epoxy Hardener
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 702160
Item number: 83176_AB0151
Region: United States
Contact information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	Paste	HEALTH:	*3
Color:	Translucent, Amber	FLAMMABILITY:	1
Odor:	Ammoniacal	PHYSICAL HAZARD:	0
		Personal Protection:	See MSDS Section 8

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

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

Potential Health Effects

Inhalation: Allergic respiratory reaction. May cause respiratory tract irritation. May cause irritation to nose and throat.

Skin contact: May cause skin burns. Allergic skin reaction. Rash. Redness.

Eye contact: Burns. Severe eye irritation. Redness. Tissue damage.

Ingestion: May be harmful if swallowed. May cause burns of mouth and throat if swallowed.

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

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	%
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	68410-23-1	60 - 100
Triethylenetetramine	112-24-3	10 - 30
Silicon dioxide	7631-86-9	1 - 5

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. Wash clothing before reuse. Thoroughly clean shoes before reuse. If symptoms develop and persist, get medical attention.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Keep individual calm. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 129.5 °C (> 265.1 °F) ; Estimated
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:	In case of fire, keep containers cool with water spray.
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen. Irritating organic fragments.

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. Immediately contact emergency personnel. Scrape up as much material as possible. Clean residue with soap and water. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:	Keep away from heat, spark and flame. Do not breathe gas/fumes/vapor/spray. Keep container closed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage:	Store in original container until ready to use. 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
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	None	None	None	None
Triethylenetetramine	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Silicon dioxide	6 mg/m3 TWA	20 MPPCF TWA 0.8 mg/m3 TWA	None	3 mg/m3 TWA Respirable fraction.

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Respiratory protection:	Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.
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. Chemical resistant, impermeable gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Paste
Color:	Translucent, Amber
Odor:	Ammoniacal
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	0.01 mm hg (20 °C (68°F))
Boiling point/range:	270 °C (518°F)
Melting point/ range:	Not available
Specific gravity:	0.98
Vapor density:	5
Flash point:	> 129.5 °C (> 265.1 °F) ; Estimated
Flammable/Explosive limits - lower:	Not available
Flammable/Explosive limits - upper:	Not available
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Not miscible or difficult to mix
Partition coefficient (n-octanol/water):	Not available
VOC content:	0 % (value for resin and hardener together)

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.
Hazardous decomposition products:	None
Incompatible materials:	Strong acids. Strong bases. Strong oxidizing agents. Amines. Water.
Conditions to avoid:	Avoid temperatures above 38°C (100°F). Excessive heat. Store away from incompatible materials. 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

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	No	No	No
Triethylenetetramine	No	No	No
Silicon dioxide	No	No	No

Hazardous components	Health Effects/Target Organs
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	Corrosive, Irritant
Triethylenetetramine	Allergen, Corrosive, Developmental, Irritant, Mutagen
Silicon dioxide	Nuisance dust

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: Triethylenetetramine solution
Hazard class or division: 8
Identification number: UN 2259
Packing group: II
Exceptions: (Not more than 1 L), Consumer Commodity, ORM-D

International Air Transportation (ICAO/IATA)

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

Water Transportation (IMO/IMDG)

Proper shipping name: TRIETHYLENETETRAMINE solution
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, Delayed 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/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, 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: Gary Pierson, Sr. Regulatory Affairs Specialist

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.