Safety Data Sheet



Revision Number: 002.0

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:

 Broduct type:
 Epoxy

 Restriction of Use:
 None

 Company address:
 Henkel Corporation

 One Henkel Way
 Rocky Hill, Connecticut 06067

LOCTITE EA 3471 known as Fixmaster Steel Putty Epoxy Hardener None identified None identified None identified

Item number:99913_319000Region:United StatesContact information:Telephone:(860) 571-5100MEDICAL EMERGENCY Phone:Poison Control Center1-877-671-4608 (toll free) or 1-303-592-1711TRANSPORT EMERGENCY Phone:CHEMTREC1-800-424-9300 (toll free) or 1-703-527-3887Internet:www.henkelna.com

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2. HAZARDS IDENTIFICATION

	EMERGENCY OVERVIEW
DANGER:	CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
	MAY CAUSE AN ALLERGIC SKIN REACTION.
	MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING
	DIFFICULTIES IF INHALED.

HAZARD CLASS	HAZARD CATEGORY
SKIN CORROSION	1B
SERIOUS EYE DAMAGE	1
RESPIRATORY SENSITIZATION	1
SKIN SENSITIZATION	1



Precautionary Statements

Prevention:	Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, and face protection. In case of inadequate ventilation wear respiratory protection.
Response:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Immediately call a poison control center or physician. If skin irritation or rash occurs: Get medical attention. If experiencing respiratory symptoms: Call a poison center or physician. Wash contaminated clothing before reuse.
Storage:	Store locked up.
Disposal:	Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*	
Amine adduct	Proprietary	30 - 60	
Aliphatic amine adduct	Proprietary	10 - 30	
Triethylenetetramine	112-24-3	5 - 10	
Substituted Piperazine	Proprietary	5 - 10	
Silicon dioxide	7631-86-9	5 - 10	
Aliphatic amine	Proprietary	5 - 10	
4,4'-Isopropylidenediphenol	80-05-7	5 - 10	
Aluminum	7429-90-5	5 - 10	
Alkyl phenol	Proprietary	1 - 5	
Benzyl alcohol	100-51-6	1 - 5	
Benzyldimethylamine	103-83-3	1 - 5	

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

difficult, give oxygen. Get medical attention. Skin contact: Immediately flush skin with plenty of water (using soap, if available). Rei contaminated clothing and footwear. Wash clothing before reuse. Thoro clean shoes before reuse. Get medical attention. Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at lea 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. Get medical attention. Symptoms: See Section 11. Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, sucturn-out gear.	4	I. FIRST AID MEASURES
contaminated clothing and footwear. Wash clothing before reuse. Thero clean shoes before reuse. Get medical attention. Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at lea 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. Get medical attention. Symptoms: See Section 11. 5. FIRE FIGHTING MEASURES Water spray (fog), foam, dry chemical or carbon dioxide. Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, sud turn-out gear. Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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. Symptoms: See Section 11. 5. FIRE FIGHTING MEASURES Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, suct turn-out gear. Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remov contaminated clothing and footwear. Wash clothing before reuse. Thoroughl clean shoes before reuse. Get medical attention.
Never give anything by mouth to an unconscious person. Get medical attention. Symptoms: See Section 11. 5. FIRE FIGHTING MEASURES Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, sucturn-out gear. Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 1 minutes. Get medical attention.
Special firefighting procedures: Water spray (fog), foam, dry chemical or carbon dioxide. Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, sud turn-out gear. Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Ingestion:	
Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, suct turn-out gear. Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Symptoms:	See Section 11.
Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, suct turn-out gear. Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	5.	FIRE FIGHTING MEASURES
Unusual fire or explosion hazards: In case of fire, keep containers cool with water spray. Closed containers rupture (due to build up of pressure) when exposed to extreme heat. Hazardous combustion products: Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
rupture (due to build up of pressure) when exposed to extreme heat.Hazardous combustion products:Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes.	Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such a turn-out gear.
	Unusual fire or explosion hazards:	In case of fire, keep containers cool with water spray. Closed containers marked rupture (due to build up of pressure) when exposed to extreme heat.
	Hazardous combustion products:	

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. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during cleanup. Immediately contact emergency personnel. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a closed container until ready for disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling:

Storage:

Do not taste or swallow. Use only with adequate ventilation. Keep container closed. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Refer to Section 8.

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Store away from heat, sparks, flames, or other sources of ignition.

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 Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Amine adduct	None	None	None	None
Aliphatic amine adduct	None	None	None	None
Triethylenetetramine	None	None 1 ppm (6 mg/m3) TWA (SKIN)		None
Substituted Piperazine	None	None	None	None
Silicon dioxide	6 mg/m3 TWA	20 MPPCF TWA 0.8 mg/m3 TWA	None	3 mg/m3 TWA Respirable fraction.
Aliphatic amine	None	None	None	None
4,4'-Isopropylidenediphenol	None	None	None	None
Aluminum	1 mg/m3 TWA Respirable fraction.	5 mg/m3 PEL (as Al) Respirable dust. 15 mg/m3 PEL (as Al) Total dust.	None	None
Alkyl phenol	None	None	None	None
Benzyl alcohol	None	None	10 ppm (44.20 mg/m3) TWA	None
Benzyldimethylamine	None	None	None	None

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. 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:	Paste
Color:	White, Gray
Odor:	Ammoniacal
Odor threshold:	Not available.
pH:	Not available.
Vapor pressure:	Not available.
Boiling point/range:	Not available.
Melting point/ range:	Not available.
Specific gravity:	1.5
Vapor density:	Not available.
Flash point:	> 93 °C (> 199.4 °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:	Partial
Partition coefficient (n-octanol/water):	Not available.
VOC content:	< 1 %; < 10 g/l (value for resin and hardener together) (estimated)
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.			
Hazardous reactions:	None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.			
Hazardous decomposition products:	Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes. Ketones. Phenolics. Irritating organic fragments.			
Incompatible materials:	Strong oxidizing agents. Strong mineral acids. Strong Lewis acids. Acids. Calcium - and Sodium hypochlorite. Strong bases. Organic halides. Copper. Aluminum. Zinc. Nitrites. Nitrous acid and other nitrosating agents.			
Reactivity:	Not available.			
Conditions to avoid:	Store away from incompatible materials. Heat, flames, sparks and other sources of ignition. Elevated temperatures.			
	11. TOXICOLOGICAL INFORMATION			

Relevant routes of exposure: Skin, Ir

Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation:	May cause allergic respiratory reaction. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact:	Corrosive to skin. Causes skin burns. May cause allergic skin reaction.
Eye contact:	Causes serious eye damage. Burns.
Ingestion:	Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract if swallowed. May cause burns of mouth and throat if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects	
Amine adduct	None	No Records	
Aliphatic amine adduct	None	No Records	
Triethylenetetramine	None	Allergen, Corrosive, Developmental, Irritant, Mutagen	
Substituted Piperazine	None	Irritant, Corrosive, Allergen	
Silicon dioxide	Oral LD50 (RAT) = > 22,500 mg/kg	Nuisance dust	
Aliphatic amine	None	No Records	
4,4'-Isopropylidenediphenol	Oral LD50 (RAT) = 4,100 mg/kg Oral LD50 (RAT) = 3,300 mg/kg	Allergen, Blood, Irritant, Kidney, Reproductive, Spleen	
Aluminum	None	Central nervous system, Irritant, Lung	
Alkyl phenol	Oral LD50 (RAT) = 1,600 mg/kg Oral LD50 (RAT) = 1,620 mg/kg Dermal LD50 (RABBIT) = 2,140 mg/kg	Allergen, Corrosive, Irritant, Kidney	
Benzyl alcohol	Oral LD50 (RABBIT) = 1,940 mg/kg Oral LD50 (RAT) = 1,230 - 3,100 mg/kg Oral LD50 (RAT) = 3,100 mg/kg Dermal LD50 (RABBIT) = 2,000 mg/kg Inhalation LC50 (RAT, 8 h) = 1,000 mg/l	Allergen, Central nervous system, Corrosive, Irritant	
Benzyldimethylamine	None	Irritant, Corrosive, Allergen, Respiratory	

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Amine adduct	No	No	No
Aliphatic amine adduct	No	No	No
Triethylenetetramine	No	No	No
Substituted Piperazine	No	No	No
Silicon dioxide	No	No	No
Aliphatic amine	No	No	No
4,4'-Isopropylidenediphenol	No	No	No
Aluminum	No	No	No
Alkyl phenol	No	No	No
Benzyl alcohol	No	No	No
Benzyldimethylamine	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information:

Not available.

13. DISPOSAL CONSIDERATIONS

Information	provided is for	unused	product of	onlv.

Recommended method of disposal:	Follow all local, state, federal and provincial regulations for disposal.
Hazardous waste number:	It is the responsibility of the user to determine if an item is hazardous as

It is the responsibility of the user to determine if an item is hazardous as defined in the Resource Conservation and Recovery Act (RCRA) at the time of disposal. Product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics of the Toxicity Characteristics Leaching Procedure (TCLP) 40 CFR 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (4 Proper shipping name: Hazard class or division: Identification number: Packing group:	49 CFR) Corrosive liquids, n.o.s. (Aminoethylpiperazine, Nonylphenol) 8 UN 1760 III
International Air Transportation (ICAO/IATA) Proper shipping name: Hazard class or division: Identification number: Packing group:	Corrosive liquid, n.o.s. (Aminoethylpiperazine, Nonylphenol) 8 UN 1760 III
Water Transportation (IMO/IMDG) Proper shipping name: Hazard class or division: Identification number: Packing group: Marine pollutant:	CORROSIVE LIQUID, N.O.S. (Aminoethylpiperazine, Nonylphenol) 8 UN 1760 III Nonylphenol

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: TSCA 12 (b) Export Notification:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. None above reporting de minimis
CERCLA/SARA Section 302 EHS: CERCLA/SARA Section 311/312: CERCLA/SARA Section 313:	None above reporting de minimis Immediate Health, Delayed Health 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). Aluminum (CAS# 7429-90-5).
California Proposition 65:	No California Proposition 65 listed chemicals are known to be present.
Canada Regulatory Information	
CEPA DSL/NDSL Status:	Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format. 4,5,6,7,8,10

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 08/13/2014

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel 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 Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Safety Data Sheet



Revision Number: 004.0

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:

Product type: Epoxy Restriction of Use: None Company address: Henkel Corporation One Henkel Way Rocky Hill, Connecticut 06067

LOCTITE EA 3471 A known as Fixmaster Steel Putty RESIN Epoxy resin None identified

IDH number:

702303

Item number:99913_10345000Region:United StatesContact information:Telephone: (860) 571-5100MEDICAL EMERGENCY Phone: Poison Control Center1-877-671-4608 (toll free) or 1-303-592-1711TRANSPORT EMERGENCY Phone: CHEMTREC1-800-424-9300 (toll free) or 1-703-527-3887Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

	EMERGENCY OVERVIEW
WARNING:	CAUSES SKIN IRRITATION.
	MAY CAUSE AN ALLERGIC SKIN REACTION.
	CAUSES SERIOUS EYE IRRITATION.
	MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3



Precautionary Statements

Prevention:	Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.
Response:	IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Call a poison control center or physician if you feel unwell. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.
Storage:	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal:	Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*	
Diiron trioxide	1309-37-1	60 - 100	
Epoxy resin	Proprietary	10 - 30	
Calcium carbonate	471-34-1	1 - 5	
Neopentyl glycol diglycidyl ether	17557-23-2	1 - 5	
Manganese	7439-96-5	0.1 - 1	

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

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 1 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. Get medical attention.
Symptoms:	See Section 11.
5.	FIRE FIGHTING MEASURES
Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such a turn-out gear.
Unusual fire or explosion hazards:	In case of fire, keep containers cool with water spray. Closed containers marked rupture (due to build up of pressure) when exposed to extreme heat.
Hazardous combustion products:	Oxides of carbon. Irritating organic fragments. Aldehydes.
6. ACC	IDENTAL 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. 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). Scrape up as much material as possible. Clean residue with soap and water. Store in a closed container until ready for disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

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. Keep container closed. Refer to Section 8.

Storage:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Store away from heat, sparks, flames, or other sources of ignition.

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 Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Diiron trioxide	5 mg/m3 TWA Respirable fraction.	10 mg/m3 PEL Fume.	None	None
Epoxy resin	None	None	None	None
Calcium carbonate	10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Neopentyl glycol diglycidyl ether	None	None	None	None
Manganese	0.1 mg/m3 TWA (as Mn) Inhalable fraction. 0.02 mg/m3 TWA (as Mn) Respirable fraction.	5 mg/m3 Ceiling (as Mn) Fume.	None	None
Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.			
Respiratory protection:	Use NIC limit(s).	OSH approved respirator	if there is potential to e	xceed exposure
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:		emical resistant, imperme r body suit to prevent ski		gloves and either an

9. PHYSICAL AND CHEMICAL PROPERTIES

Paste

Physical state: Color: Odor: Odor threshold: pH: Vapor pressure: Boiling point/range: Melting point/ range: Specific gravity: Vapor density: Flash point: Flammable/Explosive limits - lower: Flammable/Explosive limits - upper: Autoignition temperature: **Evaporation rate:** Solubility in water:

Product name: LOCTITE EA 3471 A known as Fixmaster Steel Putty RESIN Page 3 of 6

Gray, White Slight, Musty Not available. Not available. Not available. Not available. 2.6 Not available. > 93 °C (> 199.4 °F) Closed cup Not available. Not available. Not available. Not available. Not available. Not available. Insoluble Solubility in water: Partition coefficient (n-octanol/water): VOC content: Viscosity: Decomposition temperature: Insoluble Not available. < 1.0 %; < 10 g/l (value for resin and hardener together) (estimated) Not available. Not available.

10. STABILITY AND REACTIVITY Stability: Stable under normal conditions of storage and use. Hazardous reactions: None under normal processing. Hazardous decomposition products: Oxides of carbon. Aldehydes. Irritating organic vapours. Incompatible materials: Strong acids and strong bases. Strong oxidizing agents. Reactivity: Not available. Conditions to avoid: Heat, flames, sparks and other sources of ignition. Excessive heat. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure:

Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation:	May cause dizziness, incoordination, headache, nausea, and vomiting. May cause lung damage. Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact:	Causes skin irritation. May cause allergic skin reaction.
Eye contact:	Causes serious eye irritation.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects	
Diiron trioxide	None	Allergen, Cardiac, Central nervous system, Irritant, Kidney, Liver, Lung	
Epoxy resin	None	Allergen, Irritant	
Calcium carbonate	Oral LD50 (RAT) = 6,450 mg/kg	Nuisance dust	
Neopentyl glycol diglycidyl ether	None	Allergen, Blood, Bone Marrow, Immune system, Irritant, Reproductive	
Manganese	None	Immune system, Irritant, Lung, Nervous System, Reproductive, Respiratory	

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Diiron trioxide	No	No	No
Epoxy resin	No	No	No
Calcium carbonate	No	No	No
Neopentyl glycol diglycidyl ether	No	No	No
Manganese	No	No	No

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 transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration. 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 Epichlorhydrin resin) Hazard class or division: 9 Identification number: UN 3082 Ш Packing group: 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: Ш Marine pollutant: Bisphenol-A Epichlorhydrin resin **15. REGULATORY INFORMATION**

United States Regulatory Information

TSCA 8 (b) Inventory Status: TSCA 12 (b) Export Notification:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. None above reporting de minimis
CERCLA/SARA Section 302 EHS: CERCLA/SARA Section 311/312: CERCLA/SARA Section 313:	None above reporting de minimis Immediate Health, Delayed Health None above reporting de minimis
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.

16. OTHER INFORMATION

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

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