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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	LOCTITE EA 3471 known as Fixmaster Steel Putty	IDH number:	702304
Product type:	Epoxy Hardener	Item number:	99913_319000
Restriction of Use:	None identified	Region:	United States
Company address:	Contact information: Telephone: (860) 571-5100 MEDICAL EMERGENCY Phone: Poison Control Center 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		
Henkel Corporation One Henkel Way Rocky Hill, Connecticut 06067			

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

PICTOGRAM(S)



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).

See Section 11 for additional toxicological information.

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
Benzyl dimethylamine	103-83-3	1 - 5

* 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. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
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. 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 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:	Nitric acid. Oxides of carbon. Oxides of nitrogen. Ammonia. Aldehydes. Ketones. Phenolics. 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.
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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. 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:

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.

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
Amine adduct	None	None	None	None
Aliphatic amine adduct	None	None	None	None
Triethylenetetramine	None	None	1 ppm (6 mg/m ³) TWA (SKIN)	None
Substituted Piperazine	None	None	None	None
Silicon dioxide	6 mg/m ³ TWA	20 MPPCF TWA 0.8 mg/m ³ TWA	None	3 mg/m ³ TWA Respirable fraction.
Aliphatic amine	None	None	None	None
4,4'-Isopropylidenediphenol	None	None	None	None
Aluminum	1 mg/m ³ TWA Respirable fraction.	5 mg/m ³ PEL (as Al) Respirable dust. 15 mg/m ³ PEL (as Al) Total dust.	None	None
Alkyl phenol	None	None	None	None
Benzyl alcohol	None	None	10 ppm (44.20 mg/m ³) TWA	None
Benzyl dimethylamine	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, Inhalation, Eyes, Ingestion
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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
Benzyl dimethylamine	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
Benzyl dimethylamine	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:	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 (49 CFR)

Proper shipping name:	Corrosive liquids, n.o.s. (Aminoethylpiperazine, Nonylphenol)
Hazard class or division:	8
Identification number:	UN 1760
Packing group:	III

International Air Transportation (ICAO/IATA)

Proper shipping name:	Corrosive liquid, n.o.s. (Aminoethylpiperazine, Nonylphenol)
Hazard class or division:	8
Identification number:	UN 1760
Packing group:	III

Water Transportation (IMO/IMDG)

Proper shipping name:	CORROSIVE LIQUID, N.O.S. (Aminoethylpiperazine, Nonylphenol)
Hazard class or division:	8
Identification number:	UN 1760
Packing group:	III
Marine pollutant:	Nonylphenol

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 minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA Section 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). Aluminum (CAS# 7429-90-5).
California Proposition 65:	No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDL 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.
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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

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