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Safety Data Sheet

Revision Number: 004.1

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1. IDENTIFICATION

Product name: **LOCTITE ECCOBOND F 112-H known as TRA-BOND F112-H**

IDH number: 1446134

Product type/ Recommended use: Epoxy Hardener

Restriction of Use: None identified

Region: United States

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

Contact information:
Telephone: +1 (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
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1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DANGER:	H302 - HARMFUL IF SWALLOWED. H314 - CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. H317 - MAY CAUSE AN ALLERGIC SKIN REACTION. H331 - TOXIC IF INHALED. H334 - MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. H335 - MAY CAUSE RESPIRATORY IRRITATION. H361 - SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.

HAZARD CLASS	HAZARD CATEGORY
ACUTE TOXICITY ORAL	4
ACUTE TOXICITY INHALATION	3
SKIN CORROSION	1
SERIOUS EYE DAMAGE	1
RESPIRATORY SENSITIZATION	1
SKIN SENSITIZATION	1
REPRODUCTIVE TOXICITY	2
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

PICTOGRAM(S)



Precautionary Statements

Prevention:

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing mist/vapours.
P264 - Wash affected area thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves, clothing, eye and face protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.

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Response:	P301+P312+P330 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. P304+P340+P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical attention. P333+P313 - If skin irritation or rash occurs: Get medical attention. P342+P311 - If experiencing respiratory symptoms: Call a poison center or physician. P362+P364 - Take off contaminated clothing and wash it before reuse.
Storage:	P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up.
Disposal:	P501 - Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Other hazards Not available.

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	Weight %*
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	68411-71-2	30 - 60
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	10 - 30
Diethylenetriamine	111-40-0	10 - 30
Silica, amorphous, naturally	60676-86-0	5 - 10
Formaldehyde, polymer with epichlorohydrin and o-cresol	29690-82-2	1 - 5
Phenol-formaldehyde polymer	9003-35-4	0.1 - 1
Titanium dioxide < 1% particles with diameter ≤ 10 µm	13463-67-7	0.1 - 1
Boron zinc hydroxide oxide (B12Zn4(OH)14O15)	138265-88-0	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

First Aid Measures by likely routes of exposure

Inhalation:	If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Move to fresh air. If symptoms persist, seek medical advice.
Skin contact:	Rinse with running water and soap. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Thoroughly clean shoes before reuse. Discard any shoes or clothing items that cannot be decontaminated. If symptoms develop and persist, get medical attention.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention immediately.
Ingestion:	Seek immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Most important symptoms and effects (acute and delayed):	The most important known symptoms and effects, both acute and delayed, are described in Section 11: Toxicological Information.
Indication of any immediate medical attention / special treatment needed:	Not available.

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5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Improper extinguishing agents:	Not available.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Keep unnecessary personnel away.
Unusual fire or explosion hazards:	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat. In case of fire, keep containers cool with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen. Toxic fumes. Irritating vapors. Ammonia.

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:	Ensure adequate ventilation. Wear appropriate personal protective equipment. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up spilled material and place in a closed container for disposal.

7. HANDLING AND STORAGE

Handling:	Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Use only with adequate ventilation. Keep container closed. See Section 8 of the SDS for Personal Protective Equipment.
Storage:	Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Keep away from heat, spark and flame. Store in original container until ready to use. Store away from incompatible materials identified in section 10.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

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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
Diethylenetriamine	1 ppm TWA (SKIN)	None	None	None
Silica, amorphous, naturally	3 mg/m3 TWA Respirable particles. 10 mg/m3 TWA Inhalable particles.	20 MPPCF TWA 0.8 mg/m3 TWA 15 mg/m3 TWA Total dust. 5 mg/m3 TWA Respirable fraction. 15 MPPCF TWA Respirable fraction. 50 MPPCF TWA Total dust.	None	None
Titanium dioxide < 1% particles with diameter ≤ 10 µm	0.2 mg/m3 TWA Respirable nanoscale particles 2.5 mg/m3 TWA Respirable finescale particles	15 mg/m3 PEL Total dust. 5 mg/m3 TWA Respirable fraction. 50 MPPCF TWA Total dust. 15 mg/m3 TWA Total dust. 15 MPPCF TWA Respirable fraction.	None	None
Boron zinc hydroxide oxide (B12Zn4(OH)14O15)	6 mg/m3 STEL Inhalable fraction. 2 mg/m3 TWA Inhalable fraction.	None	None	None

Engineering controls: Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established 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: Blue
Odor: Ammoniacal
Odor threshold: Not available.
pH: 11
Vapor pressure: < 1 mbar (20 °C (68°F))
Boiling point/range: > 146 °C (> 294.8 °F)
Melting point/ range: Not applicable, Product is a liquid
Density/Relative density: 1
Relative vapor density: > 1.0 20 °C
Flash point: > 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not determined
Flammability: The product is not flammable.
Evaporation rate: Not applicable
Solubility: Slightly soluble Water
Partition coefficient n-octanol/water (logarithmic value): Not available.
VOC content: < 0.1 %
Dynamic viscosity: Not available.
Kinematic viscosity: > 1 mm2/s
Particle characteristics: Not applicable, Product is a liquid
Decomposition temperature: > 340 °C

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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. Oxides of nitrogen. Toxic fumes. Irritating vapors. Ammonia. Nitric acid. Chlorine.
Incompatible materials:	Acids and bases. Strong oxidizing agents. Peroxides. Sodium hypochlorite. This product slowly corrodes copper, aluminum, zinc and galvanized surfaces.
Reactivity:	Not available.
Conditions to avoid:	Keep away from heat, ignition sources and incompatible materials. Protect from direct sunlight. Elevated temperatures.

11. TOXICOLOGICAL INFORMATION

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

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Potential Health Effects/Symptoms

Inhalation: May cause respiratory tract irritation. 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). Mists, vapors or liquid may cause severe irritation or burns.

Skin contact: May cause allergic skin reaction. Causes skin burns.

Eye contact: Causes serious eye damage.

Ingestion: Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract if swallowed. If ingested, severe burns of the mouth and throat may occur, as well as perforation of the esophagus and the stomach.

Hazardous Component(s)	LD50s and LC50s
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	None
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	None
Diethylenetriamine	Oral LD50 (Rat) Approximate 1,140 mg/kg Oral LD50 (Rat) = 1,080 mg/kg Oral LD50 (Rat) = 2.33 g/kg
Silica, amorphous, naturally	None
Formaldehyde, polymer with epichlorohydrin and o-cresol	None
Phenol-formaldehyde polymer	None
Titanium dioxide < 1% particles with diameter ≤ 10 µm	None
Boron zinc hydroxide oxide (B12Zn4(OH)14O15)	None

Hazardous Component(s)	Immediate Health Effects	Delayed Health Effects	Chronic Health Effects
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer			
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Corrosive		
Diethylenetriamine	Irritant	Allergen	Eyes
Silica, amorphous, naturally	Nuisance dust		
Formaldehyde, polymer with epichlorohydrin and o-cresol	Irritant	Allergen	
Phenol-formaldehyde polymer	Corrosive Irritant	Allergen	Kidney Respiratory Skin
Titanium dioxide < 1% particles with diameter ≤ 10 µm			
Boron zinc hydroxide oxide (B12Zn4(OH)14O15)			

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	No	No	No
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	No	No	No
Diethylenetriamine	No	No	No
Silica, amorphous, naturally	No	No	No
Formaldehyde, polymer with epichlorohydrin and o-cresol	No	No	No
Phenol-formaldehyde polymer	No	No	No
Titanium dioxide < 1% particles with diameter ≤ 10 µm	No	Group 2B	No
Boron zinc hydroxide oxide (B12Zn4(OH)14O15)	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

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13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

14. TRANSPORT INFORMATION

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

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

Proper shipping name:	Amines, liquid, corrosive, n.o.s. (3,3'-oxybis(ethyleneoxy)bis(propylamine), Diethylenetriamine)
Hazard class or division:	8
Identification number:	UN 2735
Packing group:	II

International Air Transportation (ICAO/IATA)

Proper shipping name:	Amines, liquid, corrosive, n.o.s. (3,3'-oxybis(ethyleneoxy)bis(propylamine), Diethylenetriamine)
Hazard class or division:	8
Identification number:	UN 2735
Packing group:	II

Water Transportation (IMO/IMDG)

Proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (3,3'-oxybis(ethyleneoxy)bis(propylamine), Diethylenetriamine)
Hazard class or division:	8
Identification number:	UN 2735
Packing group:	II

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) inventory.
TSCA 12 (b) Export Notification:	None above reporting de minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis. Epichlorohydrin (CAS# 106-89-8).
CERCLA/SARA Section 311/312:	Please refer to the GHS classification in Section 2
CERCLA/SARA Section 313:	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:	One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: First issue. 2, 3

Prepared by: Product Safety and Regulatory Affairs

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