



Revision Date: 11/07/2003

Issue date: 11/07/2003

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: 414 Super Bonder® Plastic & Vinyl Instant Adhesive	Item number: 41404
Product type: Cyanoacrylate	Region: United States
Company address: Henkel Loctite Corporation 1001 Trout Brook Crossing Rocky Hill, Connecticut 06067	Contact Information: Telephone: 860.571.5100 Emergency telephone: 860.571.5100 Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Ethyl cyanoacrylate 7085-85-0	60-100	0.2 ppm TWA	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Liquid	HEALTH: 2
Color: Clear	FLAMMABILITY: 2
Odor: Sharp, Irritating	PHYSICAL HAZARD: 1
	Personal Protection: See Section 8

WARNING: BONDS SKIN IN SECONDS.
MAY CAUSE EYE AND RESPIRATORY IRRITATION.
COMBUSTIBLE LIQUID AND VAPOR.

Relevant routes of exposure: Skin, inhalation, eyes

Potential Health Effects

Inhalation:	Exposure to vapors above the established exposure limit results in respiratory irritation which may lead to difficulty in breathing and tightness in the chest.
Skin contact:	Bonds skin in seconds. May cause skin irritation. Cyanoacrylates have been reported to cause allergic reaction but due to rapid polymerization at the skin surface, an allergic response is rare. Cyanoacrylates generate heat on solidification. In rare circumstances a large drop will burn the skin. Cured adhesive does not present a health even if bonded to the skin.
Eye contact:	Irritating to eyes. Causes excessive tearing. Eyelids may bond.
Ingestion:	Not expected to be harmful by ingestion. Rapidly polymerizes (solidifies) and bonds in mouth. It is almost impossible to swallow.

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

See Section 11 for additional toxicological information.

Item number: 41404

Product name: 414 Super Bonder® Plastic & Vinyl Instant Adhesive

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If discomfort persists seek medical attention.
Skin contact:	Do not pull bonded skin apart. Soak in warm soapy water. Gently peel apart using a blunt instrument. If skin is burned due to the rapid generation of heat by a large drop, seek medical attention. If lips are bonded, apply warm water to the lips and encourage wetting and pressure from saliva in mouth. Peel or roll lips apart. Do not pull lips apart with direct opposing force.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. Get medical attention. If eyelids are bonded closed, release eyelashes with warm water by covering with a wet pad. Do not force eye open. Cyanoacrylate will bond to eye protein and will cause a lachrymatory effect which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Medical attention should be sought in case solid particles of polymerized cyanoacrylate trapped behind the eyelid caused abrasive damage.
Ingestion:	Ensure breathing passages are not obstructed. The product will polymerize rapidly and bond to the mouth making it almost impossible to swallow. Saliva will separate any solidified product in several hours. Prevent the patient from swallowing any separated mass.
Notes to physician:	Surgery is not necessary to separate accidentally bonded tissues. Experience has shown that bonded tissues are best treated by passive, non-surgical first aid. If rapid curing has caused thermal burns they should be treated symptomatically after adhesive is removed.

5. FIRE-FIGHTING MEASURES

Flash point:	65°C (150°F) to 93.4°C (200°F) Tagliabue closed cup
Autoignition temperature:	485°C (905°F)
Flammable/Explosive limits-lower %:	Not determined
Flammable/Explosive limits-upper %:	Not determined
Extinguishing media:	Dry powder. Foam. Carbon dioxide.
Special fire fighting procedures:	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Trace amounts of toxic and/or irritating fumes may be released and the use of breathing apparatus is recommended.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Ventilate area. Prevent product from entering the drains.
Clean-up methods:	Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

7. HANDLING AND STORAGE

- Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling. Avoid contact with fabric or paper goods. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors, and cause thermal burns.
- Storage:** Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.
- Incompatible products:** No special restrictions on storage with other products.

For information on product shelf life contact Henkel Loctite Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering controls:** Use positive down-draft exhaust 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).
- Skin protection:** Use nitrile gloves and aprons as necessary to prevent contact. Do not use PVC, nylon or cotton.
- Eye/face protection:** Chemical splash goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state:** Liquid
- Color:** Clear
- Odor:** Sharp, Irritating
- Vapor pressure:** Less than 0.2 mm Hg
- pH:** Not applicable
- Boiling point/range:** Greater than 149°C (300°F)
- Melting point/range:** Not determined
- Specific gravity:** 1.05 at 23.9°C (75°F)
- Vapor density:** Approximately 3
- Evaporation rate:** Not available
- Solubility in water:** Polymerizes in presence of water
- Partition coefficient (n-octanol/water):** Not applicable
- VOC content:** 91.9%; 965 grams/liter (EPA Method 24) Less than 20 g/L (California SCAQMD Method 316B) (estimated)

10. STABILITY AND REACTIVITY

- Stability:** Stable under recommended storage conditions.
- Hazardous polymerization:** Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.
- Hazardous decomposition products:** None
- Incompatibility:** Water, amines, alkalis and alcohols.
- Conditions to avoid:** Spontaneous polymerization

11. TOXICOLOGICAL INFORMATION

- Product toxicity data:** Acute oral LD50 >5000mg/kg (rat)(estimated). Acute dermal LD50 >2000mg/kg (rabbit)(estimated).

Carcinogen Status

Item number: 41404

Product name: 414 Super Bonder® Plastic & Vinyl Instant Adhesive

3 of 5

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Ethyl cyanoacrylate	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Ethyl cyanoacrylate	Allergen, Irritant, Respiratory

12. ECOLOGICAL INFORMATION

Ecological information: Not known

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

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

Proper shipping name: Combustible liquids, n.o.s. (Cyanoacrylate ester)
Hazard class or division: 3
Identification number: NA 1993
Packing group: None
Exceptions: (Not more than 450 Liters) Unrestricted
Marine pollutant: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Aviation regulated liquids, n.o.s (Cyanoacrylate ester)
Hazard class or division: 9
Identification number: UN 3334
Packing group: III
Exceptions: (Not more than 500ml) Unrestricted

WaterTransportation (IMO/IMDG):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: 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 5 (a) (2) SNUR: None.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None above reporting de minimus.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard, Fire, Reactive
CERCLA/SARA 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). 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 Domestic Substances List.
WHMIS hazard class: B.3, 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: C.J. Michaels, Senior Health & Regulatory Affairs Specialist

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Loctite Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Loctite Corporation has no control. It is the user's responsibility to determine the suitability of Henkel Loctite'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 Loctite Corporation's products. In light of the foregoing, Henkel Loctite 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 Loctite Corporation's products. Henkel Loctite Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.