

DURO SUPER GLUE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: DURO SUPER GLUE
Item No.: 1400336, 1347937, 1347649
Product Type: Cyanoacrylate ester

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Ethyl cyanoacrylate	7085-85-0	60-100

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Ethyl cyanoacrylate	0.2 ppm TWA	None	None

3. HAZARDS IDENTIFICATION

Emergency Overview: Bonds skin in seconds. May cause eye, skin, and respiratory irritation. Combustible liquid and vapor.

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 to 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 hazard 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. Estimated acute oral LD50 more than 5000mg/kg (rat). Estimated acute dermal LD 50 more than 2000 mg/kg (rabbit).

Primary Routes of Entry: Skin, inhalation, eyes

Existing Conditions

Aggravated by Exposure: Eye, skin, and respiratory disorders.

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3. HAZARDS IDENTIFICATION

(continued)

Literature Referenced Ingredients	Target Organ and Other Health Effects	Carcinogen	NTP	IARC	OSHA
Ethyl cyanoacrylate	ALG IRR RES IRR		NO	NO	NO

Abbreviations

N/A Not Applicable	AC3 ACGIH animal carcinogen.
ALG Allergen	BLO Blood
BNM Bone Marrow	CNS Central nervous system
EYE Eyes	IMM Immune system
IRR Irritant	LIV Liver
MUT Mutagen	RES Respiratory
SKI Skin	THY Thyroid

4. FIRST AID MEASURES

Ingestion: Ingestion is not likely. See supplemental page for emergency procedures.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Soak in warm water. See supplemental page for emergency procedures.
Eye Contact: Immediately flush with plenty of water for at least 15 minutes. See supplemental page for emergency procedures.

5. FIRE FIGHTING MEASURES

Flash Point: 176 - 200°F Method: Tag Closed Cup
Autoignition temperature: 485°C (905°F)
Extinguishing media: Carbon dioxide, foam, dry powder
Special Firefighting Procedures: Wear positive pressure self-contained breathing apparatus (SCBA).
Hazardous combustion products formed: Trace amounts of toxic and/or irritating fumes may be released and the use of breathing apparatus is recommended.
Unusual Fire or Explosion Hazards: None
Explosive Limits:
(% by volume in air) Lower Not available
(% by volume in air) Upper Not available

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6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Do not use cloths for mopping. Flood with water to polymerize and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

Environmental precautions: Ventilate area. Prevent product from entering the drains.

7. HANDLING AND STORAGE

Storage: Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use. No special restrictions on storage with other products.

Handling: Avoid contact with skin, eyes and clothing. Avoid breathing vapor. 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.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses with side shields or goggles.
Skin: Nitrile or polyethylene gloves and aprons.
Do not use PVC, nylon or cotton.
See supplemental page for additional information.
Ventilation: Positive down-draft exhaust ventilation should be provided to maintain vapor concentration below TLV
Respiratory Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Odor: Sharp, irritating
Boiling Point: More than 300°F (149°C)
pH: Does not apply
Solubility in Water: Polymerizes in presence of water
Specific Gravity: 1.1 @ 20°C
VOC Content: Less than 2%; 20 g/L (California SCAQMD Method 316B, estimated)
Vapor Pressure: Less than 0.2 mm Hg

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9. PHYSICAL AND CHEMICAL PROPERTIES

(continued)

Vapor Density: Approximately 3
Evaporation Rate
(Ether = 1) Not available
Partition coefficient
(n-octanol/water): Not applicable
Odor Threshold: 1 - 2 ppm

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.
Incompatibility: Water, alcohols, amines, alkalis.
Conditions to Avoid: Spontaneous polymerization
Hazardous Decomposition
Products: None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

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

EPA Hazardous Waste Number: Not a RCRA Hazardous Waste

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172) - Domestic Ground Transport:

Proper Shipping Name: Combustible liquids, n.o.s. (Cyanoacrylate ester)
Hazard Class or Division: 3
Identification Number: NA 1993
Packing group: None
Exceptions: Unrestricted (Not more than 450 L)
Marine Pollutant: None

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International Air Transportation (ICAO/IATA):

Proper Shipping Name: Aviation regulated liquid, n.o.s., (Cyanoacrylate Ester)
Class or Division: 9
UN or ID Number: UN 3334
Packing group: None
Exceptions: (Not more than 500mL) Unrestricted

Water Transportation (IMO/IMDG):

Proper Shipping Name: Unrestricted
Class or Division: None
UN or ID Number: None
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

United States

TSCA 8(b) Inventory Status: All components are listed or exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None.
CERCLA/SARA 302: None.
CERCLA/SARA 311/312: Immediate Health Hazard, Delayed Health Hazard, Fire, Reactive
CERCLA/SARA 313: None.
CA Proposition 65: No Prop 65 listed chemicals are known to be present.

Canada

CEPA DSL/NDSL Status: One or more components are not listed on, and are not exempt from listing on either the the Domestic Substances List or the Non-Domestic Substances List.
WHMIS hazard class: B.3, D.2.B

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16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 2
Fire Hazard: 2
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 2
Flammability Hazard: 2
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

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Supplement

INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF
HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT

Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION

First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION

In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL

Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH

If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

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It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS

Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY

It should never be necessary to use such a drastic method to separate accidentally bonded skin.