

Cyberbond

Apollo H4 MATERIAL SAFETY DATA SHEET

Cyberbond LLC
401 N Raddant Road, Batavia, IL 60510
630.761.8900 tel
630.761.8989 fax
www.cyberbond1.com

The Power of Adhesive Information
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Cyberbond™

1 - Chemical Product and Company Identification

<i>Product Name</i>	Apollo H4	<i>Product Type</i>	Cyanoacrylate Ester
<i>Date Revised</i>	1/3/2012	<i>Emergency Number</i>	800-535-5053

2 - Composition/Information on Ingredients

<i>Hazardous Component</i>	<i>CAS Number</i>	<i>%</i>
Ethyl-2 Cyanoacrylate	7085-85-0	80-95
Poly Methyl Methacrylate	9011-14-7	5-10

<i>Exposure Limits (TWA)</i>	<i>ACGIH (TLV)</i>	<i>OSHA (PEL)</i>	<i>OTHER</i>
Ethyl-2 Cyanoacrylate	.2 ppm	None	None

3 - Hazards Identification

Potential Health Effects

<i>Inhalation:</i>	Exposure to vapors above the established exposure limit results in respiratory irritation which may lead to difficulty breathing and tightness in the chest.
<i>Skin Contact:</i>	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 during the cure process and in rare instances a large drop can burn the skin.
<i>Eye Contact:</i>	Irritating to eyes. Can cause excessive tearing. Eyelids may bond.
<i>Ingestion:</i>	Material is not harmful if ingested.

4 - First Aid Measures

<i>Inhalation:</i>	Remove to fresh air. If symptoms persist, obtain medical attention.
<i>Skin Contact:</i>	Soak in warm water. Do not pull skin apart. See supplemental section for emergency action.
<i>Eye Contact:</i>	Flush with warm water. If eyelids are bonded closed, release eyelashes with water by covering the eye with a wet pad. Do not force eye open. See supplemental section for emergency action.
<i>Ingestion:</i>	Ingestion is unlikely. See supplemental section for emergency action.

5 - Fire Fighting Measures

<i>Flash Point:</i>	87°C, 189°F Tag Closed Cup
<i>Extinguishing Media:</i>	Foam, Dry Chemical or Carbon Dioxide
<i>Unusual Fire or Explosion Hazards:</i>	None.
<i>Special Fire Fighting Procedures:</i>	Wear self-contained breathing apparatus
<i>Hazardous Combustion Products:</i>	Trace amounts of toxic and/or irritating fumes may be released and the use of breathing apparatus is recommended.

6 - Accidental Release Measures

<i>Steps to be taken in case of spill or leak:</i>	Do not use cloths for clean-up. Flood spilled material with water to polymerize. Cured material can be scraped up and disposed of as non-hazardous waste. Make sure spill area is well ventilated.
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7 - Handling and Storage

<i>Safe Storage:</i>	Store away from heat and direct sunlight to maximize shelf life. Store inside in a dry location. Keep container tightly closed.
<i>Handling:</i>	Avoid contact with skin, eyes, and clothing. Avoid breathing vapor or mist. Avoid contact with paper goods or fabric. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors.

8 - Protective Equipment

<i>Ventilation:</i>	Local exhaust ventilation is recommended to maintain vapor level below exposure limits.
<i>Respiratory Protection:</i>	Observe OSHA regulations for respiratory use (29 CFR 1910.134) Use NIOSH approved respirator if there is a potential to exceed exposure limits.
<i>Skin:</i>	Polyethylene or non reactive gloves. Do not use cotton, PVC, or nylon. See supplemental page for more information.
<i>Eye Protection:</i>	Safety glasses or goggles with side shields.

9 - Physical and Chemical Properties

<i>Appearance:</i>	Clear liquid
<i>Odor:</i>	Sharp, irritating
<i>Odor Threshold:</i>	1-2 ppm
<i>Boiling Point:</i>	Greater than 300°F
<i>Melting Point:</i>	Not determined
<i>Vapor Pressure:</i>	Less than 0.2mm Hg
<i>pH:</i>	Not applicable
<i>Vapor Density:</i>	Approximately 3 (Air =1)
<i>Evaporation Rate:</i>	Not applicable
<i>Specific Gravity:</i>	1.06 at 20° C
<i>Solubility in Water:</i>	Negligible. Polymerized by water.
<i>Partition Coefficient:</i>	Not determined
<i>Volatile Organic Compound: (SCQAMD Method 316B)</i>	< 20 g/l, <2% (estimated)

10 - Stability and Reactivity

<i>Stability:</i>	Stable under recommended storage conditions.
<i>Hazardous Polymerization:</i>	Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.
<i>Incompatibility:</i>	Polymerized by contact with water, alcohols, amines, and alkalis.

11 - Toxicological Information

Acute oral LD50 >5000mg/kg (rat) (estimated). Acute dermal LD50> 2000 mg/kg (rabbit) (estimated).

12 - Ecological Information

No Data

13 - Disposal Considerations

<i>Disposal Procedures:</i>	Dispose of in accordance with Federal, State and local regulations. Not a RCRA hazardous waste.
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14 - Transportation Information

<i>Domestic Ground Transport:</i>	Non hazardous material as defined by the transportation regulations.
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<i>International Air Transportation (ICAO/IATA):</i>	Non hazardous material as defined by the transportation regulations.
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<i>Water Transportation (IMO/IMDG):</i>	Non hazardous material as defined by the transportation regulations.
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15 - Regulatory Information

<i>TSCA 8b Inventory status:</i>	All components are listed or exempt
<i>CERCLA/SARA Section 302 EHS:</i>	None.
<i>CERCLA/SARA Section 311/312:</i>	Immediate health hazard, Delayed health hazard, Fire, Reactive
<i>CERCLA SARA 313:</i>	None.
<i>California Proposition 65:</i>	None.
<i>Canada DSL/NDSL:</i>	All components are listed or exempt
<i>WHMIS hazard class:</i>	B.3, D.2.B

16 - Other Information

<i>Hazard:</i>	<i>NFPA Hazard Code</i>	<i>HMIS Hazard Code</i>
<i>Health:</i>	2	2
<i>Fire:</i>	2	2
<i>Physical Hazard:</i>	1	1
<i>Specific Hazard:</i>	No water	Personal protection: See Section 8

First Aid Supplement

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue and skin in seconds. Experience has shown that accidents due to Cyanoacrylates are best handled by passive, non-surgical first aid. Treatments of specific types of accidents are suggested as follows:

Skin Contact - Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Dried adhesive does not present a health hazard even when bonded to the skin. Avoid contact with clothes, fabric, 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 rubber or polyethylene gloves and an apron when handling large amounts of adhesive.

Skin Adhesion - First immerse the bonded surfaces in warm, soapy water. Peel off or roll the surfaces open with the end of a blunt edge, such as a spatula or a spoon handle, then remove adhesive from the skin with soap and water. Do not try to pull the surfaces apart with a direct opposing action.

Eyelid 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 one to two days. There will be no residual damage. Do not try to open the eyes by manipulation.

Adhesive in eye - Adhesive introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, usually in several hours. This will cause periods of weeping until clearance is achieved. It is important to understand 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 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. It is almost impossible to swallow Cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one to two days.

Burns - Cyanoacrylates give off heat on solidification. In rare cases, large drops 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 drastic action to separate accidentally bonded skin.

Prepared by: Cyberbond Regulatory Department
Company: Cyberbond LLC