MSDS
Material Safety Data Sheet
PERMABOND® C-2010

READ MATERIAL SAFETY DATA SHEET BEFORE HANDLING PRODUCT!

Issue Date 10/09/06

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
PRODUCT NAME PERMABOND® C-2010
Manufacturer PERMABOND LLC
20 World’s Fair Drive
Somerset, NJ 08873

EMERGENCY PHONES:
MEDICAL – 1-866-827-6282
TRANSPORT – (CHEMTREC) 1-800-424-9300

MSDS REQUESTS: HELP LINE: 1-800-640-7599

SYNONYMS SUPER GLUE

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY Cyanoacrylate Adhesive
COMPONENT CAS NUMBER CONCENTRATION (%)
Ethyl-2-Cyanoacrylate 7085-85-0 60 - 100

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: EYE IRRITANT. SKIN IRRITANT.
Colorless Liquid Pungent odor

EYE On contact, will bond eyelids together. Vapors are lachrymatory.
SKIN CONTACT Repeated or prolonged skin contact may result in moderate irritation. On contact, immediate bonding of the skin will occur.
INHALATION Vapor may be irritant to the respiratory tract.
INGESTION On contact, immediate bonding of mouth could occur.

4. FIRST-AID MEASURES

EYE Flush with large amounts of water while holding eyelids open. Get medical attention immediately. Cured adhesive will not bond well to surface of eye, but corneal damage from abrasion may result. Do not wear contact lenses when working with this material.
SKIN CONTACT No attempt should be made to remove material from skin or to remove contaminated clothing, as the bonded skin can be easily torn. Wash with large volumes of soap and water while flexing bonded skin parts. This procedure will slowly release bonded areas. DO NOT mechanically remove cured adhesive or attempt to pull skin apart.
INHALATION Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention.
INGESTION Immediate bonding of mouth will occur. Get medical attention.
5. FIREFIGHTING MEASURES

AUTOIGNITION
None Established
FLASH POINT
167°F (Setaflash Closed Tester)
EXTINGUISHING MEDIA
CO2; Dry Chemical; Foam
SPECIAL FIREFIGHTING PROCEDURES
Fire fighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.
FIRE & EXPLOSION HAZARDS
Cloths used to wipe up spills may cause rapid polymerization that could generate sufficient heat to ignite the cloth. Combustion will evolve toxic and irritant vapors.
FLAMMABILITY HAZARD CLASS
1 = Slight.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES
SMALL SPILLS: wipe up with cloth. Immediately soak cloth with water to polymerize the adhesive. Caution! Cloth containing adhesive may undergo autoignition if not soaked with water. LARGE SPILLS: flood area with water. When cured, remove film with a scraper. Wear NIOSH approved respirator for organic vapors if needed, and protective clothing.

For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE
= 2 - 7°C
35 - 45°F
HANDLING/STORAGE
Store in a cool, dry area away from heat, sparks or fire. Keep material refrigerated at the storage temperature referenced above.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT
Ethyl-2-Cyanoacrylate
EXPOSURE LIMITS
ACGIH-TWA: 0.2 ppm
OSHA-PEL: 2 ppm
OSHA-STEL: 4 ppm

VENTILATION REQUIREMENTS
Local.
EYE PROTECTION REQUIREMENTS
Safety glasses, goggles or face shield to protect against splashing.
GLOVE REQUIREMENTS
Wear polyethylene gloves. Do not wear rubber or cloth gloves.
CLOTHING REQUIREMENTS
No special clothing required for low volume activity.
CHANGE/REMOVAL OF CLOTHING
Remove contaminated clothing and launder before reuse.
WASH REQUIREMENTS
Wash before eating, drinking, or using toilet facilities.
RESPIRATOR REQUIREMENTS
Avoid prolonged or repeated breathing of vapor or mists. If exposure may or does exceed occupational exposure limits, use a NIOSH approved respirator to prevent overexposure.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure Substance or Mixture</td>
<td>Mixture</td>
</tr>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>None Established</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH as Is</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH in (1%) Solution</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 140 °F</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>None Established</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>None Established</td>
</tr>
<tr>
<td>Specific Gravity (Water=1)</td>
<td>1.05</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>8.75 lb/gal</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>None Established</td>
</tr>
<tr>
<td>Vapor Pressure (mmHg)</td>
<td>0.3</td>
</tr>
<tr>
<td>Vapor Density (air = 1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Volatiles</td>
<td>None</td>
</tr>
<tr>
<td>Autoignition</td>
<td>None Established</td>
</tr>
<tr>
<td>Flash Point</td>
<td>167 °F (Setaflash Closed Tester)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Reactivity Hazard Class</td>
<td>2 = Reactive material.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Decomposes upon heating to release toxic fumes of nitrogen oxides, carbon monoxide and carbon dioxide.</td>
</tr>
<tr>
<td>Hazardous Polymerization Conditions</td>
<td>Contamination of adhesive with alkaline materials, peroxides or water can result in rapid polymerization. In large quantities, this could lead to an uncontrollable rise in temperature and a buildup of pressure in closed containers.</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route of Entry</td>
<td>Inhalation; Skin Contact; Eye Contact; Ingestion</td>
</tr>
<tr>
<td>Chronic (Long Term) Effects of Exposure</td>
<td>The toxicological properties of this product have not been fully evaluated. Use of good industrial hygiene practices is required. Avoid direct contact with skin or eyes. Do not ingest or inhale.</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Skin; Eyes; Respiratory system</td>
</tr>
<tr>
<td>Carcinogen</td>
<td>No.</td>
</tr>
</tbody>
</table>
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11. TOXICOLOGICAL INFORMATION – CONT’D

<table>
<thead>
<tr>
<th>Category</th>
<th>Substance</th>
<th>Value/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORAL TOXICITY</td>
<td>Ethyl-2-Cyanoacrylate</td>
<td>Oral LD50: Rat &gt; 1.6 g/kg Ingestion may cause irritation of the gastrointestinal tract.</td>
</tr>
<tr>
<td>DERMAL TOXICITY</td>
<td>Ethyl-2-Cyanoacrylate</td>
<td>Dermal LD50: &gt; 10 ml/kg Irritating to the skin. On contact, immediate bonding of the skin will occur.</td>
</tr>
<tr>
<td>INHALATION TOXICITY</td>
<td>Ethyl-2-Cyanoacrylate</td>
<td>Inhalation LC50 (6.00hr): Rat 101 ppm Vapors and/or aerosols may cause irritation. Avoid breathing vapors or mists.</td>
</tr>
<tr>
<td>NOTES ON EYE IRRITATION</td>
<td>Ethyl-2-Cyanoacrylate</td>
<td>On contact, will bond eyelids together.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTENTIAL TO BIOACCUMULATE</td>
<td>Unknown.</td>
</tr>
<tr>
<td>AQUATIC TOXICITY</td>
<td>None Established</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

<table>
<thead>
<tr>
<th>Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>WASTE DISPOSAL METHODS</td>
<td>Disposal should be in accordance with local, state or national legislation.</td>
</tr>
<tr>
<td>EMPTY CONTAINER WARNINGS</td>
<td>Empty containers may contain product residue; follow MSDS and label warnings even after they have been emptied.</td>
</tr>
</tbody>
</table>

14. TRANSPORTATION INFORMATION

This section provided for general information only.

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: Dibutyl phthalate

Please note that Cyanoacrylates are not restricted for domestic ground transportation in non bulk containers (The DOT defines a bulk container as a “Package” containing more than 450 liters. The “Package” is the individual bottle, tube or drum, not a carton containing many bottles.)
14. TRANSPORTATION INFORMATION – CONT’D

International Air Transportation (ICAO/IATA):
Proper shipping name: Aviation regulated liquids, n.o.s (Cyanoacrylate ester)
Hazard class or division: 9
Identification number: UN3334
Packing group: III
Exceptions: (Not more than 500ml) Unrestricted

Please note that Cyanoacrylates are restricted for air transportation in packages containing more than 500gr. The “Package” is the individual bottle, tube or drum, not a carton containing many bottles. Permabond’s 3g, 20gr, 1 ounce(28.4 gr), 1 pound(454gr) and 500gr, are not restricted for air transportation.

Water Transportation (IMO/IMDG):
Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

The information provided herein may not include the impact of additional regulatory requirements (eg, for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/or marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

15. REGULATORY INFORMATION

USA
TSCA All components are on the TSCA inventory.

SARA/TITLE III
Contains no substances at or above the reporting threshold under Section 313.

CAS NUMBER CONCENTRATION (%)

16. OTHER INFORMATION

MSDS DATE 10/09/06

This MSDS contains changes from the previous one in section 14; Update on Transportation Information.

FOR INFORMATION CONTACT: Permabond LLC
HELP Line: 1-800-640-7599

ADDITIONAL INFORMATION: The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser’s responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.