Safety Data Sheet

PERMABOND 105

Revision Number: 2 Issue date: 05/05/15

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PERMABOND 105
Product Type: Cyanoacrylate

Company: PERMABOND LLC
14 Robinson Street
Pottstown, PA 19464
USA

Telephone: 732-868-1372 or 800-640-7599
Website: www.permabond.com

Emergency Telephone:

Medical: Poison Control Center 866-827-6282 (toll free)
or 1-303-389-1109
Transport: CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

WARNING:
BONDS SKIN ON CONTACT
MAY CAUSE SKIN IRRITATION
CAUSES EYE IRRITATION
MAY CAUSE RESPIRATORY TRACT IRRITATION
COMBUSTIBLE LIQUID

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	4
EYE IRRITATION	2B
SKIN IRRITATION	2
SPECIFIC TARGET ORGAN TOXICITY- SINGLE EXPOSURE- RESPIRATORY SYSTEM	3

PICTOGRAM(S)

Precautionary Statements

Prevention: Keep away from heat, sparks, open flames, hot surfaces – No smoking. Avoid breathing vapors, mist or spray. Wash thoroughly after handling. Use outdoors or in a well-ventilated area. Wear protective gloves, eye protection and face protection.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with plenty of water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Rinse with plenty of soap and water.
If you feel unwell call a poison control center or a physician. If eye irritation occurs: Get medical attention. If skin irritation occurs: Get medical attention. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

Storage: Store in a well-ventilated cool place. Keep container tightly closed. Store locked up.

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).

Disposal:	Dispose of according to Federal, State/Provincial and local governmental regulations.
Existing conditions aggravated by exposure:	Skin, eye and respiratory disorders.

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	CONCENTRATION (%)*
Ethyl 2-cyanoacrylate	7085-85-0	60 – 100

*Exact concentration is a trade secret. Concentration ranges are provided to assist user in determining appropriate protection.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms persist, get medical attention.
Skin contact:	On contact, immediate bonding of skin will occur. Do not pull bonded skin apart as bonded skin can be easily torn. Soak in warm soapy water while flexing bonded skin followed by gently peeling skin apart. If skin is burnt due to the heat generated during the rapid polymerization of a large drop, seek medical attention. If lips are bonded apply warm water to the lips and encourage the use of saliva to wet the interior. Gently peel or roll the lips apart. Do not use direct opposing force to peel the lips apart.
Eye contact:	Immediately flush with large amounts of water for at least 15 minutes. Get medical attention. If eyes are bonded closed, apply warm water using a wet pad to release eyelashes. Do not force eye open. Cyanoacrylates will cause a lachrymatory effect which will help to debond the adhesive. Keep the eye covered until debonding is completed usually 1- 3 days. Get medical attention to make sure cured adhesive is not trapped behind eyelid.
Ingestion:	Keep individual calm. Make sure breathing passage ways not abstracted. The product will polymerize almost instantaneously bonding the mouth making it almost impossible to swallow. Saliva will debond and separate any cured material in several hours. Prevent patient from swallowing any separated cure material. Get medical attention.
Symptoms:	See section 11
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 burn they should be treated symptomatically after adhesive is removed.

5. FIRE-FIGHTING MEASURES

Extinguishing media:	Foam, water spray or fog, dry chemical or carbon dioxide.
Special fire fighting procedures:	Fire fighter should wear positive pressure self-contained breathing apparatus.
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Trace amount of toxic and/or irritating organic vapors may be generated. The use a breathing apparatus is recommended.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection equipment recommended in section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Ventilate area. Prevent product from entering drains or waterways.

Clean-up methods: Do not use cloths to mop spills. Flood area with plenty of water to insure complete polymerization. When cured scrape off the floor for disposal. Cured material can be disposed of as non-hazardous waste. Refer to section 8 (Exposure Controls/ Personal Protection) before clean up.

7. HANDLING AND STORAGE

Handling: Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep away from fabric and paper goods. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors and cause thermal burns.

Storage: Store away from heat, sparks, flames, or other sources of ignition.

For shelf life information contact Permabond customer service at (800)714-0170

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employees should complete an assessment of all workplaces to determine the need for and selection of proper exposure controls and protective equipment before each task is started.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Ethyl 2-cyanoacrylate	0.2 ppm TWA	None	None	None

Engineering controls: Use positive down draft exhaust ventilation if general ventilation is insufficient to maintain vapor concentrations 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 protective clothing as necessary to prevent skin contact. Do not use PVC, nylon, cloth or cotton gloves

Eye/face protection: Safety goggles or safety glasses with side shields or face shield

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Clear
Odor:	Sharp irritating
Odor threshold:	Not Available
pH:	Not applicable
Vapor pressure:	<0.3 mm Hg
Boiling point/range:	>149ºC (300ºF)
Melting point/range:	Not determined
Specific gravity:	1.05 at 23.9°C (75°F)
Vapor density:	Approximately 3
Flash point:	80°C – 93°C (176°F - 199.94°F)
Flammable/Explosive limits – Lower:	Not determined
Flammable/Explosive limits – upper:	Not determined
Autoignition Temperature:	485°C (905°F)
Evaporation rate:	Not available
Solubility in water:	Polymerizes in water
Partition coefficient (n-octanol/water):	Not applicable
Decomposition temperature:	Not available
VOC content:	<2 %, 20 grams/liter (Estimated)

10. STABILITY AND REACTIVITY

Stability:	Stable when stored under the recommended storage conditions
Hazardous reactions:	Rapid exothermic reaction will occur in the presence of water, amines, alkalis and alcohols.
Hazardous decomposition products:	Upon heating may decompose to release toxic fumes of nitrogen oxides, carbon monoxide and carbon dioxide
Incompatible materials:	Water, amines, alkalis and alcohols.
Conditions to avoid:	Contact with incompatible materials which may cause spontaneous polymerization

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation:	Exposure to vapors above the exposure limits causes irritation to the respiratory tract, which may lead to difficulty of breathing and tightness of chest.
Skin contact:	Bonds skin in seconds. May cause skin irritation. Cyanoacrylates have been reported to cause skin allergic reaction but due to the rapid polymerization upon skin contact, an allergic reaction is rare.
Eye contact:	Irritating to eyes. May cause excessive tearing. On contact, will bond eyelids.
Ingestion:	Not expected to be harmful by ingestion. On contact, immediate bonding of the mouth may occur. It is almost impossible to swallow.
Existing conditions aggravated by exposure:	Skin, eye and respiratory disorders.

Hazardous components	LD50	LC50	Immediate and delayed Health Effects
Ethyl 2-cyanoacrylate	Acute oral toxicity (mg/Kg): 5000 Rat Acute Dermal Toxicity (mg/Kg): 2000 Rabbit	None	Allergen, Irritant

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Ethyl 2-cyanoacrylate	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not Available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State/Provincial and local governmental regulations. Refer to section 8 (Exposure Controls/Personal Protection) before handling.

14. TRANSPORT INFORMATION

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

Proper shipping name:	Combustible liquid, n.o.s (cyanoacrylate ester)
Hazard class or division:	Combustible liquid
Identification number:	NA 1993
Packing group:	III
Exceptions:	Unrestricted, (Not more than 450 L)

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.

International Air Transportation (ICAO/IATA):

Proper shipping name:	Aviation regulated liquid, n.o.s. (Cyanoacrylate ester)
Hazard class or division:	9
Identification number:	UN 3334
Packing group:	**III**
Exceptions:	Inner packaging containing less than 500ml are unregulated by this mode of transportation and may be shipped unrestricted.

Please note that Cyanoacrylates are restricted for air transportation in inner packages containing more than 500ml. The "inner package" is the individual bottle, tube or drum, not the outer packaging such as a fiberboard box or carton containing many bottles. Permabond 3g, 20gr, 1 ounce (28.4 gr), 1 pound (454gr) and 500ml, 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

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 12 (b) Export Notification:	None above the reporting limits.
CERCLA/SARA Section 302 EHS:	None above the reporting limits.
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health, Fire, Reactive
CERCLA/SARA 313:	None above the reporting limits.
California Proposition 65:	No chemical listed on the California Proposition 65 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.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous one: New format

Issue date: 05/05/15

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.