

MSDS
Material Safety Data Sheet
PERMABOND® QFS 16

Permabond
 Engineering Adhesive

READ MATERIAL SAFETY DATA SHEET BEFORE HANDLING PRODUCT!

Issue Date 10/10/06

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
 PRODUCT NAME
 Manufacturer

PERMABOND® QFS 16
 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
 None

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY COMPONENT	Accelerator/Activator CAS NUMBER	CONCENTRATION (%)
n-Heptane	142-82-5	60 - 100

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

EXTREMELY FLAMMABLE.
EYE IRRITANT. SKIN IRRITANT.
 Colorless Liquid Pungent odor

EYE
SKIN CONTACT
INHALATION
INGESTION

Will cause eye irritation.
 Repeated or prolonged contact may cause defatting of the skin resulting in dryness, cracking and dermatitis. Repeated and/or prolonged contact may cause irritation and skin sensitisation.
 Atmospheric concentrations in excess of the occupational exposure limit may lead to headache, nausea, and irritation of the eyes, nose and throat.
 Ingestion may cause irritation of the gastrointestinal tract. Aspiration of the product into the lungs following ingestion may cause pulmonary injury leading to pneumonitis.

4. FIRST-AID MEASURES

EYE
SKIN CONTACT
INHALATION
INGESTION

Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain immediate medical attention.
 Wash skin with soap and water. Remove grossly contaminated clothing, including shoes, and launder before re-use. Discard shoes. If symptoms (irritation or blistering) persist obtain medical attention.
 Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention.
 DO NOT induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Get prompt medical attention.

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5. FIREFIGHTING MEASURES

AUTOIGNITION	None Established
FLASH POINT	<20 °F (Setaflash Closed Tester)
EXTINGUISHING MEDIA	CO2; Dry Chemical; Foam; Water Fog
SPECIAL FIREFIGHTING PROCEDURES	Fire fighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.; Cool exposed equipment with water spray.
FIRE & EXPLOSION HAZARDS	The vapor is heavier than air and may travel a considerable distance to a source of ignition and flashback. Combustion will evolve toxic and irritant vapors.
HAZARDOUS COMBUSTION PRODUCTS	Carbon monoxide, carbon dioxide, unknown hydrocarbons.
LOWER EXPLOSION LIMIT (%)	1.0
UPPER EXPLOSION LIMIT (%)	7.0
FLAMMABILITY HAZARD CLASS	4 =Extreme.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES	Evacuate immediate area and dike area to contain spill. Extinguish open flames and ignition sources in the immediate area. Wear proper protective clothing, gloves, and splash goggles. Absorb as much of spilled material as possible with rags, sand, vermiculite or other absorbent material. Scrap absorbed material into designated waste containers. Wash area thoroughly with detergent and rinse, taking care to prevent runoff into drains or other waterways. All spilled material, absorbed waste and wash water must be disposed of in accordance with all Federal state and local regulations.
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For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE	<=27 °C <=80 °F
HANDLING/STORAGE	Store in a cool, dry area away from heat, sparks or fire. Keep material refrigerated at the storage temperature referenced above.
SENSITIVITY TO STATIC ELECTRICITY	Yes
SENSITIVITY TO MECHANICAL IMPACT	No
OTHER PRECAUTIONS	Ground containers securely when transferring contents. Wear low static or properly grounded shoes.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT	EXPOSURE LIMITS	
n-Heptane	ACGIH-STEL: 500 ppm	OSHA-PEL: 400 ppm
	ACGIH-TWA: 400 ppm	OSHA-STEL: 500 ppm

VENTILATION REQUIREMENTS	Local. Explosion-proof exhaust ventilation.
EYE PROTECTION REQUIREMENTS	Goggles.
GLOVE REQUIREMENTS	Impervious neoprene or rubber gloves are recommended.
CLOTHING REQUIREMENTS	Standard industrial hygiene procedures should be practiced.
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

PURE SUBSTANCE OR MIXTURE	Mixture
PHYSICAL FORM	Liquid
COLOR	Colorless
ODOR	Pungent
ODOR THRESHOLD	None Established
MOLECULAR WEIGHT	Not applicable
PH AS IS	Not applicable
pH IN (1%) SOLUTION	Not applicable
OXIDIZING PROPERTIES	Not applicable
BOILING POINT	201 °F
MELTING/FREEZING POINT	None Established
SOLUBILITY IN WATER	Insoluble
PARTITION COEFFICIENT (n-octanol/water)	None Established
SPECIFIC GRAVITY (WATER=1)	0.732
BULK DENSITY	6.7 lb/gal
EVAPORATION RATE	5.8 (n-Butyl Acetate =1)
VAPOR PRESSURE (mmHg)	50 @ 25°C
VAPOR DENSITY (air =1)	3.4
VOLATILES	99.1 %/wt
VOLATILE ORGANIC COMPOUNDS	6.6 lb/gal
AUTOIGNITION	None Established
FLASH POINT	<20 °F (Setaflash Closed Tester)

10. STABILITY AND REACTIVITY

STABILITY	Stable
MATERIALS TO AVOID	Strong oxidizers, Acids, Bases
REACTIVITY HAZARD CLASS	0 = Stable
HAZARDOUS DECOMPOSITION PRODUCTS	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

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11. TOXICOLOGICAL INFORMATION

ROUTE OF ENTRY		Inhalation; Ingestion; Skin Contact; Eye Contact
CHRONIC (LONG TERM) EFFECTS OF EXPOSURE		
TARGET ORGANS		Central nervous system; Respiratory system; Peripheral nervous system
CARCINOGEN		No.
COMPONENT n-Heptane	ORAL TOXICITY	NOTES ON ORAL TOXICITY Low oral toxicity. Aspiration of this product into the lungs following ingestion may cause pulmonary injury leading to pneumonitis.
COMPONENT n-Heptane	DERMAL TOXICITY	NOTES ON DERMAL TOXICITY Repeated and/or prolonged contact may cause irritation and skin sensitisation. Corrosive, causes permanent skin damage. Repeated or prolonged contact may cause defatting of the skin resulting in dryness, cracking and dermatitis.
COMPONENT n-Heptane	INHALATION TOXICITY	NOTES ON INHALATION TOXICITY Vapor, if generated, can cause irritation of the eyes, nose and respiratory tract. Avoid breathing vapors or mist.
COMPONENT n-Heptane		NOTES ON EYE IRRITATION Irritating, but does not injure eye tissue.

12. ECOLOGICAL INFORMATION

POTENTIAL TO BIOACCUMULATE	Unknown.
AQUATIC TOXICITY	None Established

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS	Disposal should be in accordance with local, state or national legislation.
EMPTY CONTAINER WARNINGS	Empty containers may contain product residue; follow MSDS and label warnings even after they have been emptied.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION GROUND (49CFR)

Proper Shipping Name:	Heptane Solutions
Hazard Class or Division:	3
Identification Number:	UN 1206
Packing Group:	II
Exceptions:	Consumer Commodity ORM-D (Not more than 1 Liter)

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14. TRANSPORTATION INFORMATION, CONT'D

INTERNATIONAL AIR SHIPMENT TRANSPORTATION (ICAO/IATA)

Proper Shipping Name: Heptane Solutions
 Hazard Class or Division: 3
 Identification Number: UN 1206
 Packing Group: II
 Exceptions: May Qualify as Consumer Commodity ID8000 (Not more than 500 ml)

WATER TRANSPORTATION (IMO/MDG)

Proper Shipping Name: Heptane Solutions
 Hazard Class or Division: 3
 Identification Number: UN 1206
 Packing Group: II
 Exceptions: Limited quantity (Not more than 1L)
 Marine Pollutant: None

15. REGULATORY INFORMATION

USA
 TSCA

All components are on the TSCA inventory.

SARA/TITLE III	CAS NUMBER	CONCENTRATION (%)
Contains no substances at or above the reporting threshold under Section 313.		

16. OTHER INFORMATION

MSDS DATE 10/10/06

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

FOR INFORMATION CONTACT: Perma|bond 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.