

*** MATERIAL SAFETY DATA SHEET ***

National Starch and Chemical Company
 Permabond International Division
 Finderne Avenue, P.O. Box 6500
 Bridgewater, NJ 08807
 Corporate and emergency telephone: 908-685-5000

1. PRODUCT IDENTIFICATION

PRODUCT NUMBER..... 82-9820
 PRODUCT NAME..... PERMABOND (R) 268
 CHEMICAL FAMILY..... Cyanoacrylate Adhesive
 CAS NUMBER OF PRODUCT..... Unassigned
 SYNONYM NAME(S)..... SUPER GLUE

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	PERCENT	EXPOSURE LIMITS
ETHYL CYANOACRYLATE	7085-85-0	>1	2 PPM (ACGIH TLV) 4 PPM (ACGIH STEL)

COMMENTS: Exposure limits based on ACGIH data for methyl cyanoacrylate.

3. PHYSICAL DATA

PURE MATERIAL OR MIXTURE..... Mixture
 PHYSICAL FORM..... Liquid
 APPEARANCE/PHYSICAL DESCRIPTION.. Transparent liquid; pungent odor
 PH AS IS..... N/A (not applicable)
 PH IN 1X SOLUTION..... N/A
 BOILING-POINT..... 140 F at 3 mm Hg
 MELTING/FREEZING POINT..... N/A
 SOLUBILITY IN WATER..... Insoluble
 SPECIFIC GRAVITY (WATER = 1)..... 1.050
 BULK DENSITY..... 8.75 lbs/gal
 VOLATILES..... Nil
 EVAPORATION RATE..... N/A
 VAPOR PRESSURE (mmHg)..... 0.3 at 68 F

*** MATERIAL SAFETY DATA SHEET ***

3. PHYSICAL DATA (Continued)

VAPOR DENSITY (AIR = 1)..... >1
 VISCOSITY..... 2000 cps
 VOLATILE ORGANIC COMPOUNDS..... Nil

4. FIRE AND EXPLOSION DATA

AUTOIGNITION..... Not noted
 FLASH POINT..... 167 Fahrenheit; Method: Setflash closed tester
 UPPER EXPLOSIVE LIMIT (X)..... Not applicable
 LOWER EXPLOSIVE LIMIT (X)..... Not applicable
 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 may release noxious or toxic vapors. See reactivity, section 7.
 NFPA FLAMMABILITY HAZARD CLASS... 1 = Slight

5. HEALTH EFFECTS DATA

SHORT TERM EFFECTS OF EXPOSURE

ROUTE OF ENTRY..... Inhalation; Skin contact; Eye contact; Ingestion
 ACUTE EFFECTS--EYE..... On contact, will bond eyelids together. Vapors are lachrymatory.
 ACUTE EFFECTS--SKIN CONTACT..... On contact, immediate bonding of the skin will occur.
 Frequent or prolonged contact may irritate the skin.
 ACUTE EFFECTS--INHALATION..... Vapors may be irritating to respiratory

*** MATERIAL SAFETY DATA SHEET ***

5. HEALTH EFFECTS DATA (Continued)

ACUTE EFFECTS--INGESTION..... system and nasal passages. On contact, immediate bonding of mouth could occur.

FIRST AID PROCEDURES

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.

LONG-TERM EFFECTS OF EXPOSURE

EFFECTS OF CHRONIC EXPOSURE..... No chronic effects are known.
 TARGET ORGANS..... Skin; Eyes; Respiratory system

*** MATERIAL SAFETY DATA SHEET ***

5. HEALTH EFFECTS DATA (Continued)

SPECIAL HEALTH EFFECTS

CARCINOGEN (OSHA guidelines)..... No

PRODUCT TOXICOLOGY

NOTES ON ORAL TOXICITY..... The adhesive solidifies and immediately bonds in the mouth.
 NOTES ON DERMAL TOXICITY..... Immediately bonds skin.
 NOTES ON INHALATION TOXICITY..... Irritating to mucous membranes and eyes. Vapor exposures of 40-60 ppm in air is very objectionable, producing lacrimation, rhinorrhea, and blurred vision. Lower concentrations, near the TLV, caused irritation of the eyes and nose.
 NOTES ON EYE IRRITATION..... Vapors cause irritation and lacrimation. Immediately bonds eyelids. Cyanoacrylates will not bond to the eye but may cause corneal scratching.

6. ECOLOGICAL INFORMATION

Not noted.

7. RECOMMENDATIONS FOR PERSONAL PROTECTIVE EQUIPMENT

CONDITIONS UNDER WHICH PPE REQ'D. Normal work conditions; Spill/Cleanup; Maintenance/Repair
 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.

*** MATERIAL SAFETY DATA SHEET ***

7. RECOMMENDATIONS FOR PERSONAL PROTECTIVE EQUIPMENT (Continued)

CLOTHING REQUIREMENTS..... No special clothing required for low volume activity.
 CHANGE/REMOVAL OF CLOTHING..... Remove contaminated clothing carefully and launder before reuse.
 WASH REQUIREMENTS..... Wash hands before eating, drinking, smoking, 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.
 VENTILATION REQUIREMENTS..... Local

8. REACTIVITY

STABILITY..... Stable
 INCOMPATIBILITIES..... Water, alkaline materials, peroxides
 NFPA REACTIVITY HAZARD CLASS..... 2 - Moderate
 HAZARDOUS DECOMPOSITION PRODUCTS..... Decomposes upon heating to release toxic fumes of nitrogen oxides, carbon monoxide and carbon dioxide.
 HAZARDOUS POLYMERIZATION..... Will occur
 HAZARD POLYMERIZATION CONDITIONS..... 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.

9. SPILL AND LEAK PROCEDURES

SPILL OR 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.

*** MATERIAL SAFETY DATA SHEET ***

9. SPILL AND LEAK PROCEDURES (Continued)

When cured, remove film with a scraper. Wear NIOSH approved respirator for organic vapors if needed, and protective clothing.
 WASTE DISPOSAL METHODS..... Waste disposal should be in accordance with existing federal, state and local environmental regulations.

10. HANDLING AND STORAGE PRECAUTIONS

STORAGE TEMPERATURE..... Less than 80 F
 HANDLING/STORAGE..... Store in a cool, dry area away from heat, sparks or fire.

11. SHIPPING INFORMATION

DOT INFORMATION

DOT SHIPPING NAME..... None
 DOT HAZARD CLASS..... Not regulated
 DOT REPORTABLE QUANTITY..... None

UNITED NATIONS INFORMATION

U.N. NUMBER..... N/A
 U.N. CLASS..... N/A

*** MATERIAL SAFETY DATA SHEET ***

12. OTHER REGULATORY

TSCA..... All components are on the TSCA inventory
 SARA/TITLE III..... This product contains no substances at or above the reporting threshold under Section 313, based on data available.

13. REGULATORY CONTACT

MSDS DATE..... 02/22/94
 REVISED MSDS SECTIONS..... Section 11
 FOR REGULATORY INFORMATION, CONTACT:
 Philip A. Toscano
 Assistant Regulatory Coordinator
 Permabond International Division
 National Starch & Chemical Company
 Finderne Avenue, P.O. Box 6500
 Bridgewater, NJ 08807
 908-685-5379

-ADDITIONAL INFORMATION-

THE INFORMATION GIVEN AND THE RECOMMENDATIONS MADE HEREIN APPLY TO OUR PRODUCT(S) ALONE AND 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.