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9 February, 1998

\*\*\* SAFETY DATA SHEET \*\*\*

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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PRODUCT NAME..... Permabond A1046

Permabond, Division of National Starch & Chemical  
Woodside Road  
Eastleigh  
Hants.  
SO50 4EX  
United Kingdom  
EMERGENCY TELEPHONE:  
(44) 01703 629628 (Business hours)

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2. COMPOSITION/INFORMATION ON INGREDIENTS

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CHEMICAL FAMILY..... Methacrylate Ester

COMPONENT	CAS NUMBER	CONCENTRATION RANGES	EEC SYMBOL/ RISK PHRASES
Acrylic acid	79-10-7	1-<5%	C R10, R34
Hydroxypropyl methacrylate	27813-02-1	>50%	Xi R36/38

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3. HAZARDS IDENTIFICATION

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Irritant.

EYE.....	Moderate eye irritation.
SKIN CONTACT.....	Frequent or prolonged contact may irritate the skin.
INHALATION.....	No hazard in normal industrial use.
INGESTION.....	Low order of toxicity. No hazard in normal industrial use.

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4. FIRST-AID MEASURES

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EYE.....	Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.
SKIN CONTACT.....	Flush with large amounts of water; use soap if available. If irritation persists, get medical attention.
INHALATION.....	Remove to fresh air. Get medical attention if irritation persists.
INGESTION.....	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

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AUTOFLAMMABILITY.....	Not Applicable
FLASH POINT.....	>100 C
EXTINGUISHING MEDIA.....	CO <sub>2</sub> ; 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
FIRE & EXPLOSION HAZARDS.....	Combustion may release noxious or toxic vapours. See below.
HAZARDOUS COMBUSTION PRODUCTS.....	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.
UPPER EXPLOSION LIMIT (%).....	Not Applicable
LOWER EXPLOSION LIMIT (%).....	Not Applicable

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6. ACCIDENTAL RELEASE MEASURES

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SPILL AND LEAK PROCEDURES.....	Take up with sand or other absorbent material and place in container for later disposal. This material should not be spilled, dumped, or flushed into sewers or public waterways.
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For safety and environmental precautions, please review entire Safety Data Sheet for necessary information.

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7. HANDLING AND STORAGE

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STORAGE TEMPERATURE.....	Ambient.
SPECIAL SENSITIVITY.....	Keep away from heat.
HANDLING/STORAGE.....	Store in cool, dry place.
VENTILATION REQUIREMENTS.....	General; Normal room ventilation should be adequate. If vapours or dust are a nuisance near the work area, local mechanical ventilation should be provided.
SENSITIVE TO STATIC ELECTRICITY?...	No
SENSITIVITY TO MECHANICAL IMPACT...	No

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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COMPONENT	EXPOSURE LIMITS
Acrylic acid	2 ppm (skin) (ACGIH-TWA)
Hydroxypropyl methacrylate	20 ppm (Manufacturer)
VENTILATION REQUIREMENTS.....	General; Normal room ventilation should be adequate. If vapours or dust are a nuisance near the work area, local mechanical ventilation should be provided.
EYE PROTECTION REQUIREMENTS.....	Avoid contact with eyes. Wear chemical goggles if there is likelihood of contact with eyes.
GLOVE REQUIREMENTS.....	The use of chemically resistant gloves is recommended.
CLOTHING REQUIREMENTS.....	Overalls or lab coat should be worn.
RESPIRATORY REQUIREMENTS.....	None required under normal handling conditions.

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9. PHYSICAL AND CHEMICAL PROPERTIES

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PURE SUBSTANCE OR PREPARATION.....	Preparation
PHYSICAL FORM.....	Liquid
APPEARANCE/ODOUR.....	Green; Acrylic odour
ODOUR THRESHOLD.....	Not available.
pH AS IS.....	Not Applicable

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9. PHYSICAL AND CHEMICAL PROPERTIES ( Continued )

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BOILING POINT.....	Not Applicable
MELTING/FREEZING POINT.....	Not Applicable
SOLUBILITY IN WATER.....	Insoluble
PARTITION COEFFICIENT (n-octanol/water).....	Not Applicable
RELATIVE DENSITY.....	1.070
EVAPORATION RATE.....	Not Applicable
VAPOUR PRESSURE (mmHg).....	Not Applicable
VAPOUR DENSITY (air=1).....	Not Applicable
VISCOSITY.....	9000 mPa.s
VOLATILES.....	None.
VOLATILE ORGANIC COMPOUNDS.....	<5 g/l
AUTOFLAMMABILITY.....	Not Applicable
FLASH POINT.....	>100 C
OXIDIZING PROPERTIES.....	Not Applicable

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10. STABILITY AND REACTIVITY

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STABILITY.....	Stable
MATERIALS TO AVOID.....	Acids; Bases; Peroxides
HAZARDOUS DECOMPOSITION PRODUCTS...	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.
HAZARDOUS POLYMERIZATION CONDITIONS.....	An oxygen-free atmosphere may cause hazardous polymerization.

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11. TOXICOLOGICAL INFORMATION

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CHRONIC (LONG TERM) EFFECTS OF EXPOSURE

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ROUTE OF ENTRY.....	Inhalation; Skin contact; Eye contact
EFFECTS OF CHRONIC EXPOSURE.....	Although this product has not been tested for chronic effects it is judged as having a low order of toxicity based on component information. Use of good industrial hygiene practices is recommended.
TARGET ORGANS.....	Not Applicable
SPECIAL HEALTH EFFECTS.....	None known.

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12. ECOLOGICAL INFORMATION

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POTENTIAL EFFECT ON ENVIRONMENT....	Unknown.
MOBILITY.....	Unknown.
PERSISTENCE AND DEGRADABILITY.....	Unknown
POTENTIAL TO BIOACCUMULATE.....	Unknown
ECOTOXICITY.....	Unknown.
AQUATIC TOXICITY.....	None established.

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13. DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHODS.....	Waste disposal should be in accordance with existing Community, National and local regulations.
EMPTY CONTAINER WARNINGS.....	Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

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14. TRANSPORT INFORMATION (See also section 9)

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ADR/RID.....	Not Applicable
CEPIC TREMCARD NUMBER.....	Not Applicable
HAZCHEM CODE.....	Not Applicable
KEMMLER CODE.....	Not Applicable
IMDG CLASSIFICATION.....	Not Applicable
IATA CLASSIFICATION.....	Not Applicable
MARINE POLLUTANT.....	No
U.N. NUMBER (S.I.N.).....	Not Applicable
U.N. CLASS, PACKING GROUP.....	Not Applicable

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15. REGULATORY INFORMATION

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EEC HAZARD CLASSIFICATION.....	Irritant.
RISK PHRASES.....	R36/38 - Irritating to eyes and skin.
SAFETY PHRASES.....	S24 - Avoid contact with skin. S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Directives 88/379/EEC and 91/155/EEC have been considered when compiling

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15. REGULATORY INFORMATION ( Continued )

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this SDS; the information is provided for health and safety assessment by an industrial user. Reference should be made to any relevant local or national health, safety, and environmental legislation. This information does not constitute indication of suitability for specific uses.

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16. OTHER INFORMATION

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MSDS DATE..... 6 February, 1998  
CHANGES SINCE PREVIOUS ISSUE..... Section 2; Section 9; Section 15;  
Section 16

## FOR REGULATORY INFORMATION, CONTACT:

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