



**MX Systems International
Ltd**
Alexandra Way
Ashchurch Business Centre
Tewkesbury
Gloucestershire GL20 8TB

MX SYSTEMS MX2 POROSITY SEALANT

1. IDENTIFICATION OF THE SUBSTANCE/PREPERATION AND THE COMPANY

PRODUCT NAME: MX SYSTEMS MX2 POROSITY SEALANT

SUPPLIER: MX SYSTEMS INTERNATIONAL LIMITED
ALEXANDRA WAY
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TEWKESBURY, GLOUCESTERSHIRE.
GL20 8TB

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EMERGENCY TELEPHONE: (44) (0) 1684 271600 (CONTACT INSTRUCTIONS BY RECORDING OUT OF OFFICE HOURS)

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS No	CONTENT	CLASS	RISK PHRASES
Methacrylate Ester	94247-05-9	45 - 60% w/w	Xi	R36/37/38
Methacrylate Ester	27813-02-1	35 - 45% w/w	Xi	R36/37/38
Methacrylate Ester	142-90-5	3 - 10% w/w	Xi,N	R36/37/38-50/53
Methacrylate Ester	3290-92-4	1 - 5% w/w	Xi	R36/37/38

3. HAZARDS IDENTIFICATION

Irritating to eyes, respiratory system and skin.
Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment
Possibility of hazardous polymerisation at elevated temperatures, if subjected to direct sunlight, in the presence of free radical initiators or in the absence of oxygen.

4. FIRST AID MEASURES

INHALATION : Move to fresh air, rest and keep warm. In case of breathing difficulties, give oxygen and seek medical attention.

INGESTION : Wash out mouth with water and seek urgent medical attention. Do not induce vomiting.

EYE CONTACT : Flush with copious amounts of water and seek urgent medical attention.

SKIN CONTACT : Wash affected area with copious amounts of soap and water and remove contaminated clothing. If irritation persists, seek medical attention. Contaminated clothing should be cleaned before using again.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Water spray, Carbon Dioxide, foam, powder.

DO NOT USE: Direct water jet.

HAZARDOUS DECOMPOSITION PRODUCTS: Methacrylic Acid, Carbon Dioxide and Carbon Monoxide may be produced under conditions of fire.

PROTECTIVE EQUIPMENT: Operators should be fully protected. In the event of a large fire, self-contained breathing apparatus will be required.

SPECIAL FIRE FIGHTING EQUIPMENT: Cool any non-burning stock of product in the vicinity of the fire with water spray to prevent uncontrolled polymerisation. Polymerisation could be violent and may result in an explosion in sealed drums.

6. ACCIDENTAL RELEASE MEASURES

SPILLAGE TREATMENT : Wear suitable protective clothing, as described in section 8.0 (Exposure Controls/Personal Protection). Absorb spillage in sand or similar absorbent material and take up for disposal. Disposal should be in accordance with section 13.0 (Disposal Consideration). Wash the spillage area with water. Do not allow entrance to drains or sewers.

Inform the authorities if a major spillage occurs.

7. STORAGE AND HANDLING

HANDLING: Use the product only in a well ventilated area. Do not ventilate product into working area during operation. Avoid contact with eyes and skin. Always wear the appropriate personal protective equipment, as described in Section 8.0 (Exposure Controls/Personal Protection) , when using or handling this product. Do not smoke. Do not eat or drink while handling or using this product. Do not ingest this product. The product should at all times be handled under conditions of good industrial hygiene and safe working practice.

STORAGE: Store the product between 5 and 20°C, out of direct sunlight, away from direct heat and in its original container. Store away from oxidising agents (e.g. HNO₃) , reducing agents, peroxides, free radicals, metal oxides (particularly rust - iron oxide), alkalis, bases and acids.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION: Use the product only in a well ventilated area. Do not ventilate product into working area during operation.

RESPIRATORY PROTECTION: Under normal conditions of handling the product, as supplied, in a well ventilated area, respiratory protective equipment should

not be required. However, self-contained breathing apparatus should be worn if there is a risk of exposure to high concentrations, for example, after a major spillage.

HAND PROTECTION:	Impermeable gloves must be worn at all times when handling this product. PVC would be a suitable material.
EYE PROTECTION:	Safety goggles or a face visor must be worn at all times when handling this product.
SKIN PROTECTION:	Protective clothing and impact and chemical resistant footwear must be worn at all times when handling this product.
GENERAL:	The product must at all times be handled under conditions of good industrial hygiene and safe working practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear, pale straw liquid.
ODOUR:	Mild Methacrylate
pH (10% IN WATER @ 20°C):	5 - 6
VISCOSITY (SETA ZAHN NO. 1 CUP @ 20°C):	27 - 31 seconds
FLASH POINT:	104°C
FLAMMABILITY:	Not classed as flammable, however smoking in the immediate area in which the product is in use is not recommended.
AUTO IGNITION TEMPERATURE :	Not known.
EXPLOSIVE PROPERTIES:	None known, however sealed drums may explode due to uncontrolled polymerisation in the event of fire or if subjected to elevated temperatures, direct sunlight, free radical initiators or in the absence of oxygen.
SPECIFIC GRAVITY @ 20°C:	0.890 - 0.980
SOLUBILITY IN WATER:	Emulsifiable.

10. STABILITY AND REACTIVITY

STABILITY:	Remains stable under normal storage conditions. Stability of the product will be reduced, possibly resulting in polymerisation, if the correct storage conditions are not adhered to.
SHELF LIFE:	12 months.
HAZARDOUS POLYMERISATION:	Due to the presence of stabilisers in the product, the uncatalysed sealant will not polymerise at low ambient temperatures. However, uncontrolled polymerisation may occur at elevated temperatures, if the product is subjected to direct sunlight, in the presence of free radical initiators or in the absence of oxygen. Polymerisation of this product produces an exothermic reaction and may be violent, possibly resulting in an explosion in sealed drums.
MATERIALS TO AVOID:	Oxidising agents (e.g. HNO ₃), reducing agents, ketones, aldehydes, heptane, alcohols, Group I alkaline metals, halogens

(especially Fluorine) peroxides, free radicals, metal oxides, alkalis, bases and acids.

CONDITIONS TO AVOID

Elevated temperatures, direct sunlight, absence of oxygen and those conditions stipulated in the section "Materials to Avoid".

HAZARDOUS DECOMPOSITION PRODUCTS:

At elevated temperatures, under conditions of fire, or if uncontrolled polymerisation occurs the following may be produced: Methacrylic Acid, Carbon Monoxide and Carbon Dioxide.

11. TOXICOLOGICAL INFORMATION

HEALTH WARNINGS:

Irritating to eyes and skin and respiratory system.

MEDICAL SYMPTOMS:

EYES:

Causes irritation to eyes. Liquid or mist will cause conjunctival irritation and possibly corneal damage.

SKIN:

Causes irritation. Prolonged or repeated contact may cause itching and soreness and possibly, allergic sensitisation.

INGESTION:

Ingestion may cause irritation of the mouth, throat and digestive tract and may also lead to central nervous system depression.

INHALATION:

Causes irritation to nose, throat and air passages. Effects may be severe if exposed to high vapour concentrations.

12. ECOLOGICAL INFORMATION

MOBILITY:

Surface Tension; 30 dynes/cm

DEGRADABILITY:

The product is expected to be biodegradable.

ACUTE FISH TOXICITY;

The product contains traces of the following product which is harmful to aquatic organisms and may cause long term adverse effects in the aquatic environment:

Benzotriazole CAS No. 95-14-7 LC₅₀: Fish: 130mg/l.

ENVIRONMENTAL HAZARDS:

The typical oxygen demands for the product are as follows:
Chemical Oxygen Demand (COD): 1% in water: 14190mg/l.
Biochemical Oxygen Demand (BOD): 1% in water: 3900mg/l

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Prospective users of this product should contact their local water authority to ascertain if solutions of the product in water may be discharged to a foul sewer. Considerations should also be given to any suspended solids or other material present in the effluent from the user's own process as these may require special treatment before discharge. Alternatively, waste solutions may be disposed of via a licensed waste disposal contractor.

Quantities of unused product and empty containers should be disposed of via a licensed waste disposal contractor. Empty IBC's may be returned to MX Systems International Limited by agreement.

Disposal of this product, solutions and any contaminants should at all times comply with the requirements of the Environmental

Protection Act and its subsidiary regulations and any national or regional local authority requirements.

14. TRANSPORTATION INFORMATION

Overland transport GGVs/ADR, GGV/RID

Class 9 item 11c, Hazard No. 90 UN-number 3082
Technical despatch name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Inland waterway transport ADN

Class 9 item 11c, UN-number 3082
Technical despatch name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Shipment by Sea IMDG/GGVSee

IMDG/GGVSee :
Class 9 EmS UN-number 3082
Marine pollutant Packed (+0):0
Packaging group III
Proper shipping name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazardous constituent: dodecyl methacrylate

Air transport ICAO/IATA

Class 9 UN-number 3082
Packaging group III
Proper shipping name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

DOT Not subject to the regulations on dangerous goods

15. REGULATORY INFORMATION

STATUTORY INSTRUMENTS:

Approved Supply List (Supplement to Third Edition): Chemicals (Hazard Information and Packaging for Supply) (Amendment) Regulations 1997.

Control of Substances Hazardous to Health Regulations 1994 (COSHH).

CLASSIFICATION: Xi Irritant.

RISK PHRASES: R 36/37/38: Irritating to eyes, respiratory system & skin.
R51/53 Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

SAFETY PHRASES: S15: Keep away from heat.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S61 Avoid release to the environment. Refer to special instructions/safety data sheet.

USER NOTES:

It should be noted that this Safety Data Sheet only outlines the hazards of the product specified and does not constitute a user's Workplace Risk Assessment as required by other Health and Safety legislation.

16. OTHER INFORMATION**RECOMMENDED USES AND RESTRICTIONS**

This product is intended to be used industrially/commercially as an impregnation material for porous ferrous and non-ferrous components. It should not be used for domestic purposes or for any other industrial/commercial use without the prior approval of MX Systems International Limited.

PACKAGING:

MX2 is available in the following packaging:
20 kg blue polyethylene drums, 185kg steel or plastic drums.
900 kg IBC.

INFORMATION SOURCES::

Raw material suppliers' Safety Data Sheets.

Brethericks's Handbook of Reactive Chemical Hazards (Fifth Edition): 1995.

Health and Safety Executive Guidance Note EH40/97:
Occupational Exposure Limits 1997.

Chemicals (Hazard Information and Packaging for Supply) (Amendment) Regulations 1997 - Approved Supply List (Supplement to Third Edition).

Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations 1994 - Approved Carriage List.

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