	MATERIAL SAFETY DATA SHEET	MSDS No.	M-01
	HEMA	Effective From	24/03/2021

1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier	
GHS Product Identifier	2-hydroxyethyl methacrylate
Chemical Name	2-hydroxyethyl methacrylate
Other names	2-HEMA
CAS No.	2-Propenoic acid,2-methyl-,2-hydroxyethyl ester
EINECS No.	868-77-9
REACH No.	212-782-2
	01-2119490169-29-XXXX
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Identified use(s)	Mainly used to produce thermosetting coating, fiber treatment agent, bonding agent, photosensitization plastics and medical polymer materials, etc
Uses advised against	
1.3 Details of the supplier of the safety data sheet	
Company identification	Bloomchemag BV Sint – Antoniusstraat 16 b1, B-2400 Mol, Belgium
Telephone	+91 72919 74484 / 72919 74050
E-Mail (competent person)	info@bloomchemag.com
1.4 Emergency telephone number	
Emergency Phone No.	+9172919 74050

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
2.1.1 Regulation (EC) No. 1272/2008 (CLP)	Eye Irrit. 2 Skin Irrit. 2 Skin Sens. 1
2.1.2 Directive 67/548/EEC & Directive 1999/45/EC	Irritant R36/38 R43
2.2 Label elements	
2.2.1 Label elements	According to Regulation (EC) No. 1272/2008 (CLP)
GHS Product Identifiers	
Hazard pictogram(s)	



Signal word(s)

Warning

Hazard statement(s)

H319: Causes serious eye irritation.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

2.2.2 Label elements

According to Directive 67/548/EEC & Directive 1999/45/EC

Not applicable

- 2.3 Other hazards
2.4 Additional Information

Not applicable

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

EC Classification No. 1272/2008

Hazardous ingredient(s)	%W/W	EC No.	Index No.	Hazard statement(s)
2-hydroxyethyl methacrylate	98.0 %	212-782-2	607-124-00-X	Eye Irrit. 2 H319 Skin Irrit. 2 H315 Skin Sens. 1 H317

EC Classification No. 67/548/EEC

Hazardous ingredient(s)	%W/W	EC No.	Index No.	EC Classification and Risk Phrases
2-hydroxyethyl methacrylate	98.0 %	212-782-2	607-124-00-X	Xi Irritant R36/38 -R43

3.3 Additional Information

For full text of H/P phrases see section 16.

4. SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

Obtain medical attention. Remove persons affected by vapour to fresh air. Apply artificial respiration if patient is not breathing.

Skin Contact

Obtain medical attention. Wash skin with soap and plenty of water.

Eye Contact

Obtain medical attention. Flush eyes with water for at least 15 minutes while holding eyelids open.

Ingestion

Obtain medical attention. Do not induce vomiting wash out mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Coughing. Increased difficulty in breathing. Headache, nausea and vomiting.

4.3 Indication of the immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

5. SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media

Extinguish with carbon dioxide, dry chemical, alcohol resistant foam or waterspray. Extinguish large fires with copious amounts of water.

Unsuitable Extinguishing Media

Do not use water jet.

5.2 Special hazards arising from the substance or mixture

May decompose in a fire, giving off toxic and irritant vapours.

5.3 Advice for fire-fighters

Self-contained breathing apparatus to be worn if involved in fire. Water spray should be used to cool containers.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures** Put on protective clothing. Ensure adequate ventilation. Avoid breathing vapour.
- 6.2 Environmental precautions** Prevent entry into drains.
- 6.3 Methods and material for containment and cleaning up** Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Consult an accredited waste disposal contractor or the local authority for advice.
- 6.4 Reference to other sections** Section 8 (Exposure control/PPE) & Section 13 (Disposal)




7. SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid contact with skin and eyes. Avoid breathing fumes. Ensure adequate ventilation. General hygiene measures for the handling of chemicals are applicable.
- 7.2 Conditions for safe storage, including any incompatibilities** Keep container tightly closed, in a cool, dry, dark well ventilated place.
 Storage Temperature Keep below **25 °C**. Recommended: : **below 10°C**
 Storage Life One year
 Incompatible materials Poly merisation catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidising agents.

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
8.1.1 Occupational Exposure Limits

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note:
2-hydroxyethyl methacrylate	868-77-9	No Occupational Exposure Limit assigned.	No Occupational Exposure Limit assigned.	-	-	UK EH40 2007

- 8.2 Exposure controls**
- 8.2.1 Appropriate engineering controls** Ensure adequate ventilation. Local exhaust recommended.
- 8.2.2 Personal protection equipment**
- Eye/face protection  Safety spectacles/goggles/full face shield. Minimum standard EN166
- Skin protection (Hand protection/ Other)  Neoprene gloves. Minimum standard EN374-3. Apron or other light protective clothing, and boots.
- Respiratory protection  A suitable mask with filter type A (EN141 or EN405) .
- Other Have available eyewash bottle with clean water. General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and after work.
- 8.2.3 Environmental Exposure Controls**

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless
Odour	Ester-like
Odour Threshold (ppm)	Not available.
pH (Value)	4 (500 g/l in water)
Melting Point (°C) / Freezing Point (°C)	-60 degC
Boiling point/boiling range (°C):	211 degC
Flash Point (°C) [Closed cup]	96 degC
Evaporation rate (Butyl acetate = 1)	<0.01
Explosive limit ranges	Not available
Vapour Pressure (mm Hg)	0.08 at 25 degC
Vapour Density (Air=1)	5
Density (g/ml)	1.073
Solubility (Water)	Soluble.
Solubility (Other)	Soluble in: Ether, Acetone, Alcohol
Partition Coefficient (n-Octanol/water)	Log Pow = 0.47
Auto Ignition Temperature (°C)	Not available
Decomposition Temperature (°C)	200 – 250 degC (Polymerises)
Viscosity (mPa.s) at 20 degC	6.8
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2 Other information

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Hydroxyl- and Monomer-like
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	None anticipated.
10.4 Conditions to avoid	Heat, Light, Moisture
10.5 Incompatible materials	Polymerisation catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidising agents.
10.6 Hazardous Decomposition Product(s)	Carbon oxides, methacrylates (Fire conditions)

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Substances

Acute toxicity

Ingestion	LD50 : 5560 mg/kg (Rat) LD50 : 5050 mg/kg (Rat) LD50 : 5890 mg/kg (Mouse) LD50 : 5460 mg/kg (Mouse) LD50 : 4680 mg/kg (Guinea Pig)
Inhalation	Not available
Skin Contact	LD50 : >3000 mg/kg (Rabbit) Irritating to skin. (Rabbit)
Serious eye damage/irritation respiratory or skin sensitization	Irritating to eyes. Skin sensitisation has been reported in studies with guinea pigs.
Mutagenicity	There is no evidence of mutagenic potential.
Carcinogenicity	No evidence of carcinogenicity.
Reproductive toxicity	Studies in animals have shown that exposures produce no teratogenic effects.
STOT-single exposure	Coughing, Increased difficulty in breathing.

STOT-repeated exposure

Changes in blood picture – cholesterol, leucocyte count.
Repeated exposure of skin can cause irritation and sensitization.

11.2 Other information**12. SECTION 12: ECOLOGICAL INFORMATION**

12.1 Toxicity (Fish) (96hrs) (Daphnia magna) (48hrs) (Algae) (72 hour)	LC50 = 227 mg/l (Fathead minnow (Pimephales promelas)) EC50 = 1000 mg/l (Calculated) EC50 = 332 mg/l (Scenedesmus subspicatus) (Calculated)
12.2 Persistence and degradability	Readily biodegradable.
12.3 Bioaccumulative potential	The substance has no potential for bioaccumulation.
12.4 Mobility in soil	The product is predicted to have high mobility in soil.
12.5 Results of PBT and vPvB assessment	Not classified as PBT or vPvB.
12.6 Other adverse effects	Unlikely to have an effect on effluent treatment systems.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Incinerate under approved controlled conditions, using incinerators suitable for the disposal of noxious chemical waste. Consult an accredited waste disposal contractor or the local authority for advice.
13.2 Additional Information	

14. SECTION 14: TRANSPORT INFORMATION

14.1 Land transport (ADR/RID)	Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.
14.2 Sea transport (IMDG)	Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.
14.3 Air transport (ICAO/IATA)	Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

15. SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1 EU regulations Authorisations and/or restrictions on use	None anticipated
15.1.2 National regulations	None assigned
15.2 Chemical Safety Assessment	No Chemical Safety Assessment (CSA) has been carried out

16. SECTION 16: OTHER INFORMATION**LEGEND**

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity

References:

American Conference of Governmental Industrial Hygienists
Danish (Q)SAR Database (National food institute, Denmark)
EPI Suite software : US Environmental Protection Agency
European Chemicals Bureau – IUCLID 4 report
European Regulations and Directives
International Agency for Research on Cancer

Published chemical directories
Suppliers' safety data sheets
UK Health and Safety Executive

Risk Phrases and Safety Phrases

R36/38: Irritating to eyes and skin.
R43: May cause sensitization by skin contact.

S2: Keep out of the reach of children.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28: After contact with skin, wash immediately with plenty of soap and water.

Hazard statement(s) and Precautionary statement(s)

Eye Irrit. 2	Eye Irritation Category 2B
Skin Irrit. 2	Skin Irritation Category 2
Skin Sens. 1	Skin Sensitisation Category 1

H319: Causes serious eye irritation.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.

P102: Keep out of reach of children.
P261: Avoid breathing dust/fume/gas/mist/ vapours /spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410: Protect from sunlight.

Additional Information

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