

2-hydroxyethyl methacrylate, stabilized

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Revision date: 27/01/2014

Supersedes: 17/10/2002

Version: 2.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Substance name : 2-hydroxyethyl methacrylate, stabilized
EC index no : 607-124-00-X
EC no : 212-782-2
CAS No : 868-77-9
REACH registration No. : 01-2119490169-29
Product code : HEMA
Formula : C6H10O3
Synonyms : 2-hydroxyethyl methacrylate / 2-hydroxyethyl-2-methyl-2-propenoate / 2-hydroxyethyl-2-methylpropenoate / 2-methyl-2-propenoic acid 2-hydroxyethyl ester / 2-propenoic acid, 2-methyl-, 2-hydroxyethyl ester / beta-hydroxyethylmethacrylate / BISOMER HEMA / ethylene glycol methacrylate / ethylene glycol monomethacrylate / ethylene glycol, monomethacrylate / glycol methacrylate / glycol monomethacrylate / HEMA / hydroxyethyl methacrylate / metacrylic acid, 2-hydroxyethyl ester / methacrylic acid 2-hydroxyethyl ester / methylpropenoic acid, hydroxyethyl ester / mhoromer / monomer MG-1 / monomethacrylic ether of ethylene glycol / Substances with a flash-point above 60 °C and not more than 100 °C / Substances with a flash-point above 60 °C and not more than 100 °C, which do not belong to another class
BIG no : 14581

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Industrial use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ADAKEM
www.adakem.com
T +36 21 312200

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
GREECE	Poisons Information Centre Children's Hospital "Aglaia. Kyriakou"	11527Athens	+30 10 779 3777
IRELAND (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9Dublin	: +353 1 8379964
ISRAEL	Israel Poisons Information Centre Rambam Medical Centre	PO Box 9602 31096Haifa	+972 4 854 1900
UNITED KINGDOM	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ERLondon	0870 243 2241

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Eye Irrit. 2 H319
Skin Irrit. 2 H315
Skin Sens. 1 H317

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Xi; R36/38
R43

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

P280 - Wear protective gloves, eye protection, face protection
P264 - Wash hands thoroughly after handling
P321 - Specific treatment (see information on this label)
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
2-hydroxyethyl methacrylate, stabilized (Main constituent)	(CAS No)868-77-9 (EC no)212-782-2 (EC index no)607-124-00-X (REACH-no)01-2119490169-29	100	Xi; R36/38 R43
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-hydroxyethyl methacrylate, stabilized (Main constituent)	(CAS No)868-77-9 (EC no)212-782-2 (EC index no)607-124-00-X (REACH-no)01-2119490169-29	100	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317

Full text of R-, H- and EUH-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general :

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation :

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact :

Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact :

Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion :

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call Poison Information Centre (www.big.be/antigif.htm).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact :

Tingling/irritation of the skin.

Symptoms/injuries after eye contact :

Irritation of the eye tissue.

Chronic symptoms :

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

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4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Alcohol-resistant foam. Polymer foam. BC powder. Carbon dioxide.

Unsuitable extinguishing media : Solid water jet ineffective as extinguishing medium.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD. Material presenting a fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Substance contains stabilizer against polymerization. Heat destroys stabilizer against polymerization. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD. Heat may cause pressure rise in tanks/drums: explosion risk. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity : May polymerize on exposure to temperature rise: pressure rise and possible bursting of container. Upon combustion: CO and CO₂ are formed. May form peroxides. Reacts violently with (some) acids/bases: (increased) risk of fire/explosion. Prolonged storage: may polymerize. Unstabilized product polymerizes on exposure to some compounds: release of heat.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Heat/fire exposure: gas-tight suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Protective clothing.

Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply.

Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, saw dust, kieselguhr. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Use earthed equipment. Keep away from naked flames/heat. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe very strict hygiene - avoid contact. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

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7.2. Conditions for safe storage, including any incompatibilities

Storage temperature	: < 30 °C
Heat-ignition	: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. peroxides.
Storage area	: Store in a cool area. Store in a dark area. Keep out of direct sunlight. Ventilation at floor level. Provide the tank with earthing. Limited time of storage. Keep under air (oxygen). Meet the legal requirements.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. nonhermetical. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: stainless steel. polypropylene. glass. MATERIAL TO AVOID: aluminium. copper. tin.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Materials for protective clothing	: GIVE GOOD RESISTANCE: butyl rubber. PVA. neoprene. PVC.
Hand protection	: Gloves.
Eye protection	: Face shield.
Skin and body protection	: Protective clothing.
Respiratory protection	: High gas/vapour concentration: gas mask with filter type A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 130.14 g/mol
Colour	: Colourless.
Odour	: Characteristic odour.
Odour threshold	: No data available
pH	: No data available
Melting point	: -12 °C
Freezing point	: No data available
Boiling point	: 211 °C
Flash point	: 97 °C
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Vapour pressure	: 0.1 hPa
Relative vapour density at 20 °C	: 4.5
Relative density	: 1.1
Density	: 1070 kg/m ³
Solubility	: Soluble in water. Soluble in ethanol. Water: > 10 g/100ml
Log Pow	: -0.55 - 0.49
Log Kow	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.009 Pa.s (20 °C)
Explosive properties	: No data available
Oxidising properties	: No data available

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9.2. Other information

VOC content : 100 %
Other properties : Gas/vapour heavier than air at 20°C. Clear. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

May polymerize on exposure to temperature rise; pressure rise and possible bursting of container. Upon combustion: CO and CO₂ are formed. May form peroxides. Reacts violently with (some) acids/bases: (increased) risk of fire/explosion. Prolonged storage: may polymerize. Unstabilized product polymerizes on exposure to some compounds: release of heat.

10.2. Chemical stability

Unstable on exposure to light.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2-hydroxyethyl methacrylate, stabilized(868-77-9)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 3000 mg/kg (Rabbit)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Mild water pollutant (surface water). Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Not harmful to bacteria (EC50 >1000 mg/l).

2-hydroxyethyl methacrylate, stabilized(868-77-9)	
LC50 fishes 1	227 mg/l (96 h; Pimephales promelas; Measured concentration)
LC50 fish 2	360 mg/l (48 h; Leuciscus idus)

12.2. Persistence and degradability

2-hydroxyethyl methacrylate, stabilized(868-77-9)	
Persistence and degradability	Readily biodegradable in water. Biodegradability in soil: no data available. Adsorbs into the soil.

12.3. Bioaccumulative potential

2-hydroxyethyl methacrylate, stabilized(868-77-9)	
BCF fish 1	1.3 - 1.5 (Pisces; Calculated value)
Log Pow	-0.55 - 0.49
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Refer to manufacturer/supplier for information on recovery/recycling. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. May be discharged to wastewater treatment installation.

Additional information : LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

No dangerous good in sense of transport regulations

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

VOC content : 100 %

15.1.2. National regulations

Water hazard class (WGK) : 1 - slightly hazardous to water

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-phrases::

Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitisation Category 1
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
Xi	Irritant

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.