

DM Healthcare Products, Inc.

Safety Data Sheet

Product: 2-Hydroxyethyl Methacrylate (HEMA)
MSDS ID: H1159

Revised Date: 01/01/19
Replaces Date: 04/10/17

1. General Information

Product Code: H1159
Trade Name(s): 2-Hydroxyethyl Methacrylate (HEMA)
Product Type: Methacrylate functionalized monomer
Recommended Use:
Restrictions: None identified

Company: DM Healthcare Products, Inc.
10080 Willow Creek Rd.
San Diego, CA 92131
Telephone: 858-348-1122

Emergency phone number (spill, leak, fire, exposure or accident):
US Domestic (800) 535-5053 (INFOTRAC) Includes Canada and Mexico
International +1 (352) 323-3500
China Specific (86) 400-120-0761
Germany Specific (49) 0800-181-2924
Australia Specific (61) 1-300-366-961

2. Hazards Identification

EMERGENCY OVERVIEW:

OSHA Hazards: Irritant

GHS Classification Skin Irritation (Category 2)
Eye Irritation (Category 2a)
Skin sensitization (Category 1)

GHS Label Elements, including precautionary statements

Pictogram



Signal word **WARNING**

Hazard statement(s)

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

Precautionary statement(s)

P261 Avoid breathing dust/mist/vapors/spray
P264 Wash skin thoroughly
P272 Contaminated work clothing should not be allowed out of the workplace
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.

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents / container to an approved waste disposal plant.

HMIS Classification

Health = 2
Flammability = 1
Physical = 0

NFPA Classification

Health = 2
Fire = 1
Reactivity = 0

POTENTIAL HEALTH EFFECTS:

Eyes: Causes serious eye irritation.
Skin: Causes skin irritation/allergic skin reaction/skin sensitization

3. Composition Information

COMPONENT	CAS#	CONCENTRATION
2-Hydroxyethyl Methacrylate	868-77-9	<= 100%

4. First Aid Measures

SWALLOWING: Do not induce vomiting. Give person large amounts of water. Get immediate medical attention.
SKIN CONTACT: Wash area with soap and water. Remove contaminated clothing and shoes. Wash or clean before reuse.
INHALATION: Remove person to fresh air. If breathing has stopped, perform artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
EYE CONTACT: Flush with water for 15 minutes. Get immediate medical attention.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire and Explosion Hazard Data

FLASH POINT (method): 106°C (222.8°F), (closed cup)

EXTINGUISHER METHOD: water, spray, CO₂, foam, dry chemical

SPECIAL FIRE-FIGHTING PROCEDURES:

Fire fighters should wear NIOSH/MSHA approved pressure demand self-contained breathing apparatus. Decontaminate or discard any clothing that may contain chemical residues.

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UNUSUAL FIRE AND EXPLOSION HAZARDS:

Do not enter fire area without proper protection. See Section 10, Reactivity Data, for decomposition products possible. Fight fire from safe distance and protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Use water spray/fog for cooling. Pressure relief system may plug with solids, increasing risk of overpressure.

6. Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear personal protective equipment (clothing and gloves) when handling spilled materials. Promptly absorb spill. Remove sources of ignition.

PERSONAL PRECAUTIONS:

Wear suitable protective equipment.

ENVIRONMENTAL PRECAUTIONS:

Cover drains to prevent entry into waterways.

7. Handling and Storage

HANDLING: Avoid contact with eyes.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.

VENTILATION: General (mechanical) room ventilation is expected to be satisfactory for use at room temperature. Special, local ventilation is recommended at points where vapors generated at high temperatures may be vented to the workplace air.

STORAGE: Store at 5°C away from incompatible materials identified in the *Stability and Reactivity Section*.

8. Exposure Controls and Personal Protection Measures

COMPONENT	EXPOSURE LIMITS		
	<u>ACGIH</u>	<u>OSHA</u>	<u>MFG Working Standard</u>
2-Hydroxyethyl Methacrylate	not established	not established	not established

PERSONAL PROTECTION:

Respiratory: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. If a respirator is used, a NIOSH/MSHA approved respirator with organic vapor/dust-mist fume filters represents the minimum level of respiratory protection.

Hands: Solvent impermeable gloves.

Eyes: Chemical safety goggles.

Skin: Chemical-resistant clothing.

OTHER PROTECTIVE EQUIPMENT:

Wear disposable protective clothing to facilitate recovery of any materials spilled.

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ENGINEERING CONTROLS:

Ventilation:
Local Exhaust:
Fume hood at point of generation with sufficient exhaust to remove material from breathing zone.

EXPOSURE LIMITS:

None established by OSHA, ACGIH or UCC
Do not let product enter into drains.

9. Physical / Chemical Characteristics

APPEARANCE:

Physical State:	Liquid
Color:	Colorless
Odor:	ester-like

OTHER PROPERTIES:

Boiling Point:	67 °C (153 °F) at 4.7 hPa (3.5mmHg) – lit.
Melting Point:	-11.99 °C (10.42 °F) – lit.
pH:	No data available
Flash Point:	106 °C (223 °F) – closed cup – ASTM D 93
Relative Density :	1.073 g/mL at 25 °C (77 °F) – lit.
Vapor Pressure (mmHg):	0.08hPa (0.06mmHg) at 20°C (68 °F)
Vapor Density (air=1):	No data available
Solubility in water:	100 g/L at 20°C (68 °F)
Log P _{ow}	0.42 at 25°C (77 °F) – OECD Test Guideline 107
Auto-ignition temperature	375°C (707 °F) at 1,024 hPa (768mmHg)

10. Reactivity Hazard Data

STABILITY:	Stable under recommended storage conditions
CONDITIONS TO AVOID:	Exposure to moisture Heat Light
INCOMPATIBLE MATERIALS:	Can react with strong oxidizing agents, free radical initiators, Steel (all types and surface treatments), Peroxides
HAZARDOUS DECOMPOSITION PRODUCTS:	Other decomposition products – No data available In the event of a fire: See section 5

11. Toxicological Information

ACUTE TOXICITY:

ORAL LD50:	Rat – male and female – 5,564 mg/kg
INHALATION LC50:	No data available
DERMAL LD50:	Rabbit – male - > 5,000 mg/kg

Other information on acute toxicity: No data available

SKIN CORROSION/IRRITATION: No data available

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SERIOUS EYE DAMAGE/ EYE IRRITATION: Eyes – Rabbit
Result: Irritating to eyes
(Draize Test)

RESPIRATORY OF SKIN SENSITIZATION: in vivo essay – Guinea Pig
Result: May cause sensitization by skin contact
(Maximization Test (GPMT))

GERM CELL MUTAGENICITY: In vitro mammalian cell gene mutation test
Chinese hamster ovary cells
Result: negative

OECD Test Guideline 474 Rat – male
Result: negative

CARCINOGENICITY:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

REPRODUCTIVE TOXICITY:

Reproductive toxicity – rat – female – oral

Effects on fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Effects on embryo or fetus: Fetal Death

SPECIFIC TARGET ORGAN TOXICITY – Single Exposure (Globally Harmonized System)

No Data available

SPECIFIC TARGET ORGAN TOXICITY – Repeated Exposure (Globally Harmonized System)

No data available.

ASPIRATION HAZARD

No data available.

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POTENTIAL HEALTH EFFECTS:

Ingestion: May be harmful if swallowed.
Skin: May be harmful if absorbed through skin. Causes skin irritation / sensitization.
Eyes: Causes eye irritation.

SIGNS AND SYMPTOMS OF EXPOSURE:

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SYNERGISTIC EFFECTS:

No data available.

ADDITIONAL INFORMATION:

RETCS: Not available
Repeated dose Rat – male – female – oral - - NOAEL : 300mg/kg
Stomach – irregularities – based on human evidence. (Mequinol)

12. Ecological Information

TOXICITY:

Toxicity to fish LC50 semi-static test - *Oryzias latipes* - > 100mg/l – 96 h
(OECD Test Guideline 203)
Toxicity to daphnia and other Aquatic invertebrates Immobilization - *Daphnia magna* (water flea) - 380mg/L – 48h
(OECD Test Guideline 202)
Toxicity to algae Growth inhibition *Selenastrum capricornutum* (green algae) 836 – mg/Lm -
72 h

PERSISTENCE AND DEGRADABILITY:

Aerobic – Exposure time 14 d
Result – 92-100% - readily biodegradable

BIOACCUMULATIVE POTENTIAL:

No data available.

MOBILITY IN SOIL:

No data available.

PBT AND vPvB ASSESSMENT:

No data available.

OTHER ADVERSE EFFECTS:

None established

13. Disposal Considerations

WASTE DISPOSAL METHOD:

Disposal should be in accordance with local, state or national legislation.

EMPTY CONTAINER WARNINGS:

Empty containers may contain product residue, follow MSDS and label warnings even after they have been emptied.

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14. Transport Information

Not a hazardous material for transportation.

US DOT REGULATIONS:

NON-BULK	Proper Shipping Name: Not regulated
BULK	Proper Shipping Name: Not regulated

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized safety officer. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

CALIFORNIA PROPOSITION 65: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.

Component	CAS Number
None	

TSCA INVENTORY STATUS: Material is not listed nor exempt from listing on the TSCA inventory. As such this material is to be used for R&D purposes only by trained professionals only.

SARA 313 TOXIC CHEMICALS:	Component	CAS Number	Concentration
	None		

16. Other Information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgments of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. While that data contained herein is factual, it should not be taken as warranty or representation for which the company assumes legal responsibility. It is offered solely for your consideration, investigation and verification. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.