

SAFETY DATA SHEET

Revision date 2019-Jun-19

Revision number 1.04

1. IDENTIFICATION

Product identifier

Product name BISOMER[®] HEMA

Other means of identification

Product code 745757
Synonyms 2-Hydroxyethyl methacrylate

Recommended use of the chemical and restrictions on use

Recommended use [RU] Monomer for special polymers
Uses advised against Mixtures containing unreacted liquid monomer intended to come into contact with skin or nails

Details of the supplier of the safety data sheet

Supplier GEO Specialty Chemicals, Inc.
300 Brookside Ave
Building #23, Suite 100
Ambler, PA 19002-3420
+1-888-519-3883
Hours: Monday-Friday 9:00-5:00 EST (Eastern Standard Time)

Manufacturer Address GEO Specialty Chemicals UK Ltd
Charleston Road, Hardley, Hythe
Southampton, Hampshire SO45 3ZG
United Kingdom
Phone: +44 (0)23 80894666
Fax No: +44 (0)23 80243113

Contact Point safety-data-sheet-fp@geosc.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: (800) 424-9300
Outside USA - +1 (703) 527-3887 collect calls accepted

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1

EMERGENCY OVERVIEW

Physical state liquid	Color colorless	Appearance clear	Odor characteristic
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GHS Label elements, including precautionary statements**WARNING****Hazard statements**

Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

- Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	weight-%	TRADE SECRET
2-Hydroxyethyl methacrylate	868-77-9	> 97%	--

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret

4. FIRST AID MEASURES**First Aid Measures****General advice**

In case of adverse health effects seek medical advice.

Eye contact

Remove contact lenses, if worn. Immediately flush with plenty of water for at least 10 minutes, holding eyelids apart to ensure flushing of the entire surface. Seek medical advice immediately.

Skin contact

Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion

If swallowed: Drink 1 or 2 glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Most important symptoms and effects, both acute and delayed**Acute effects**

Irritating to eyes and skin. May cause an allergic skin reaction.

Chronic effects

Repeated or prolonged exposure may result in liver or kidney damage.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media**Suitable extinguishing media**

Water spray jet, Alcohol-resistant foam, Extinguishing powder, Carbon dioxide.

Extinguishing media which must not be used for safety reasons

High pressure waterjet.

Special hazards arising from the substance or mixture**Special Hazard**

Formation of toxic gases is possible during heating or in fires. The product may undergo spontaneous polymerization at high temperatures. Polymerization is exothermic and may cause damage to the container and/or release of thermal decomposition products.

Advice for firefighters**Firefighting measures**

Cool exposed containers with water spray after extinguishing fire.

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for firefighting personnel.

Explosion data**Sensitivity to Mechanical Impact**

None.

Sensitivity to Static Discharge

None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear suitable protective clothing and gloves.

Environmental precautions**Environmental precautions**

Do not empty into drains/surface water/ground water. Inform authorities in the event of product spillage to water courses or sewage systems.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust). Dispose of contaminated material as waste according to Section 13.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Avoid contact with eyes, skin and clothing

Avoid breathing vapors or mists

Use only in well-ventilated areas

Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.

Wash thoroughly after handling

Ensure that eyewash stations and safety showers are close to the workstation location

Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

The product is stabilized against spontaneous polymerization before delivery. However, if the permissible storage time or storage temperature are greatly exceeded the product may polymerize.

Keep only in the original container in a cool, well-ventilated place

Store at temperatures not exceeding 25 °C/ 77 °F

Store in a dry place. Store away from direct heat or sunlight.

Tanks should preferably contain no dead spaces where the product can be trapped and polymerize. Internal structural members should therefore be kept to a minimum and tanks should be welded.

Storage tank vents, especially those fitted with flame arrestors, should be inspected regularly for polymer fouling which can arise from vapor phase polymerization.

Do not store together with reductants.

Do not store together with oxidants.

Incompatible products

Reaction with reducing agents. Reaction with oxidants. Acids or alkalies. Free radical producing initiators. Primary and Secondary Amines.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls

Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Individual protection measures, such as personal protective equipment**Eye/face Protection**

If splashes are likely to occur: Chemical Goggles.

Hand Protection

Polychloroprene gloves. Coating thickness 1.1 mm. Level 5 > 240 min breakthrough time.

Skin and body protection

Wear suitable protective clothing.

Respiratory protection

Filter A2 is recommended in cases of prolonged exposure.

Other personal protection data

Eyewash fountains and safety showers must be easily accessible.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	liquid
Color	colorless
Appearance	clear
Odor	characteristic
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks / Method</u>
pH	< 7.0	No information available
Melting / freezing point	No information available	No information available
Boiling point / boiling range	213 °C / 415 °F	OECD Test No. 103
Flash point	106 °C / 222 °F	Directive 84/449/EEC, A.9
Evaporation rate	No information available	No information available
Flammability (solid, gas)	No information available	No information available
Flammability Limit in Air		
Upper flammability limit	No information available	No information available
Lower flammability limit	No information available	No information available
Vapor pressure	0.08 mbar	OECD Test No. 104
Vapor density	>= 1	No information available
Specific gravity	No information available	No information available
Solubility (water)	> 100 g/L @ 20 °C	No information available
Solubility in other solvents	No information available	No information available

Partition coefficient: n-octanol/water	0.42 @ 25 °C	OECD Test No. 107
Autoignition temperature	375 °C / 707 °F	Directive 84/449/EEC, A.15
Decomposition temperature	No information available	No information available
Kinematic viscosity	No information available	No information available
Dynamic viscosity	6 mPa s @ 20 °C	OECD Test No. 114

Other information

Density	1.0720 g/cm ³ - ASTM D 1298-99
Bulk Density	No information available
Explosive properties	Can polymerize violently
Oxidizing properties	The substance or mixture is not classified as oxidizing
Softening point	No information available
Molecular weight	130 g/mol
Volatile Organic Compound (VOC) content, wt. %	No information available
Percent Volatile, wt. %	No information available

10. STABILITY AND REACTIVITY**Reactivity****Reactivity**

Polymerizes readily unless inhibited. Polymerization is highly exothermic and, if not controlled, may be violent.

Chemical stability**Chemical stability**

Stable under normal conditions of handling, use and transportation. Periodic air sparging in storage will assist long term stability.

Possibility of hazardous reactions**Possibility of hazardous reactions**

None under normal processing.

Hazardous polymerization

May occur if inhibitor is depleted or if exposed to high temperature.

Conditions to avoid**Conditions to avoid**

This product contains a peroxidation inhibitor. To maintain inhibitor activity, oxygen must not be eliminated from the atmosphere above the product. Avoid radical forming substances (metal-ions, peroxides). Avoid heating. If prolonged excursions above the recommended storage temperature occur, then the rate of inhibitor depletion could accelerate, leading to an increased risk of polymerization. In these circumstances it is recommended that the inhibitor level be checked periodically using ASTM procedure D 3125, and more inhibitor added if depletion is observed.

Incompatible materials**Materials to avoid**

Reaction with reducing agents. Reaction with oxidants. Acids or alkalis. Free radical producing initiators. Primary and Secondary Amines.

Hazardous decomposition products

Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Irritating vapors.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Eye contact**

Causes eye irritation.

Skin contact

May cause sensitization by skin contact.

Ingestion

May be harmful if swallowed.

Inhalation

Vapors may be irritating.

Acute toxicity - Product Information**Oral LD50** > 5000 mg/kg (Experiment)**Dermal LD50** > 5000 mg/kg (Experiment)**Inhalation LC50** No information available**Information on toxicological effects****Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Not irritating

Method: OECD Test No. 404: Acute Dermal Irritation/Corrosion

Serious eye damage/eye irritation

Irritating

Method: OECD Test No. 405: Acute Eye Irritation/Corrosion

Sensitization

Dermal sensitization: sensitizing (Experiment)

Germ cell mutagenicity**In vitro mutagenicity:** not mutagenic

Method: OECD Test No. 471: Bacterial Reverse Mutation Test

Carcinogenicity

Not classifiable as a human carcinogen

Method: OECD Test No. 451: Carcinogenicity Studies

Reproductive toxicity

No toxicity to reproduction

Method: OECD Test No. 416: Two-Generation Reproduction Toxicity

Specific target organ toxicity - Single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure. (Expert assessment).

Specific target organ toxicity - Repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure. (Expert assessment)

Aspiration hazard

No aspiration toxicity classification (Expert assessment).

Other information

None

12. ECOLOGICAL INFORMATION**Ecotoxicity****Acute aquatic toxicity - Product Information**

Fish	LC50 (96 hour) > 100 mg/L Method: OECD Test No. 203: Fish, Acute Toxicity Test
Crustacea	EC50 (48 hour): 380 mg/L (<i>Daphnia magna</i>) Method: OECD Test No. 202: Daphnia sp., Acute Immobilization Test
Algae/aquatic plants	EC50 (72 hour): 836 mg product/L. Method: OECD 201 / DIN 38412, part 9

Chronic aquatic toxicity - Product Information

Fish	NOEC > 10 - <= 100 mg product/L. (analogy)
Crustacea	NOEC > 10 - <= 100 mg product/L Method: OECD Test No. 211: Daphnia magna Reproduction Test
Bacteria toxicity	EC50: 2204 mg/L. Method: Chronic bacterial toxicity according to test method DIN 38 412

Persistence and degradability**Persistence and degradability**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). (Expert assessment)

Ultimate biodegradation

Readily and rapidly degradable. All organic substances contained in the product achieve > 60% BOD/COD or CO₂ liberation, or > 70% DOC reduction in tests for ease of degradability. Threshold values for 'readily degradable' (e.g. to OECD method 301) are reached.

Bioaccumulative potential**Bioaccumulative potential**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). (Expert assessment)

Mobility**Mobility**

No information available

Results of PBT and vPvB assessment**PBT and vPvB assessment**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)

This substance is not considered to be very persistent nor very bioaccumulating (vPvB)

Other adverse effects**Other information**

No other ecological studies have been carried out on this product.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Disposal of wastes**

Dispose of product in an approved chemical waste landfill or incinerate in accordance with applicable Federal, state and local regulations.

Contaminated packaging

Packaging that cannot be cleaned are to be disposed of in the same manner as the product. Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO/IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION**International Inventories****United States (TSCA)**

All ingredients are on the inventory or exempt from listing

Australia (AICS)

All ingredients are on the inventory or exempt from listing

Canada (DSL)

All ingredients are on the inventory or exempt from listing

Canada (NDSL)

None of the ingredients are on the inventory.

China (IECSC)

All ingredients are on the inventory or exempt from listing

European Union (EINECS)

All ingredients are on the inventory or exempt from listing

European Union (ELINCS)

None of the ingredients are on the inventory.

Japan (ENCS)

All ingredients are on the inventory or exempt from listing

South Korea (KECL)

All ingredients are on the inventory or exempt from listing

Philippines (PICCS)

All ingredients are on the inventory or exempt from listing

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
AICS - Australian Inventory of Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
IECSC - China Inventory of Existing Chemical Substances
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

U.S. Federal Regulations**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	Yes

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

U.S. State Regulations**California Proposition 65****WARNING**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	California Proposition 65
Ethylene oxide 75-21-8	carcinogen, 7/1/1987 developmental toxicity, 8/7/2009 male reproductive toxicity, 8/7/09 female reproductive toxicity 2/27/87

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION

NFPA Rating	Health - 2	Flammability - 1	Instability - 2	Special Hazard -
HMIS Rating	Health - 2* * = Chronic Health Hazard	Flammability - 1	Physical hazards - 2	Personal protection - B
Product code	745757			
Revision date	2019-Jun-19			
Revision number	1.04			

Additional information

BISOMER® is a registered trademark of GEO Specialty Chemicals UK Ltd.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet