

Section 1. Product and Company Identification

Product Name Hydroxypropyl Methacrylate
CAS Number 27813-02-1

Parchem - fine & specialty chemicals

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CHEMTEL

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Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200

Caustic burning / irritation of skin

Hazard category 2 - H315

Skin Sensitization

Hazard category 1 B - H317

Serious eye damage/eye irritation

Hazard category 2 B - H320

Specific target organ toxicity - single exposure (inhalation)

Hazard category 3 - H335

GHS Label Elements

Pictograms:



Signal word: Warning

Hazard and precautionary statements

Hazard statement

Causes skin irritation. (H315)

May cause an allergic skin reaction. (H317)

Causes eye irritation. (H320)

May cause respiratory irritation. (H335)



Precautionary Statement (Prevention)

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. (P261)
Wash hands thoroughly with soap and water after handling. (P264)
Use only outdoors or in a well-ventilated area. (P271)
Contaminated work clothing should not be allowed out of the workplace. (P272)
Wear protective gloves/protective clothing/eye protection/face protection. (P280)

Precautionary Statement (Response)

IF ON SKIN: Wash with plenty of water. (P302 + P352)
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304 + P340)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305 + P351 + P338)
Call a POISON CENTER or doctor/ physician if you feel unwell. (P312)
Specific treatment (see supplemental first aid instructions on this label). (P321)
If skin irritation or rash occurs: Get medical advice/ attention. (P333 + P313)
If eye irritation persists: Get medical advice/ attention. (P337 + P313)
Take off contaminated clothing and wash before reuse. (P362)
Wash contaminated clothing before reuse. (P363)

Precautionary Statement (Storage)

Store in a well-ventilated place. Keep container tightly closed. (P403 + P233)
Store locked up. (P405)

Precautionary Statement (Disposal)

Dispose of contents/container according to the local / regional/national/international waste disposal regulations. (P501)

Hazardous component(s) for labelling

Contains hydroxypropyl methacrylate, methacrylic acid

Other hazards

Take precautionary measures against static discharges. Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

Classification of the substance or mixture

This mixture is classified as hazardous according to US-GHS.

Section 3. Composition / Information on Ingredients

Common Name Hydroxypropyl Methacrylate
Synonym(s) HPMA
Formula
CAS Number 27813-02-1

COMPONENT	CAS NUMBER	CONCENTRATION
Hydroxypropyl Methacrylate	27813-02-1	97%



Section 4. First Aid Measures

Description of first aid measures

General advice: First aider needs to protect himself. Take off all contaminated clothing immediately. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapors.

Inhalation: If inhaled, remove to fresh air. If breathing is difficult, get medical attention.

Skin contact: In case of contact, immediately flush skin with plenty of water. Get immediate medical attention. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye contact: In case of contact, immediately flush eyes with plenty of water for 15 minutes. Consult a physician immediately.

Ingestion: If swallowed, DO NOT induce vomiting. Have victim drink 8-10 ounces of water to dilute material in stomach. Get immediate medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Sensitization, May cause eye and skin irritation, difficulty breathing

Indication of any immediate medical attention and special treatment needed: Symptomatic treatment.

Section 5. Firefighting Measures

Extinguishing media

Suitable extinguishing media: foam, dry chemical, carbon dioxide

Unsuitable extinguishing media: full water jet

Specific hazards arising from the chemical: May be released in case of fire: carbon monoxide, carbon dioxide, organic products of decomposition.

Special protective equipment and precautions for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Containers can build up pressure if exposed to heat (fire).

Cool with water spray.

Explosive mixtures may occur at temperatures at or above the flashpoint. Vapors can travel to a source of ignition and flash back.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures Assure sufficient ventilation. Use personal protective clothing. Keep away sources of ignition. Use breathing apparatus if exposed to vapors/dust/mist/aerosol. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly with soap and water after handling.



Environmental precautions: Prevent product from getting into drains/surface water/groundwater.

Methods and materials for containment and cleaning up

Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations. Use personal protective equipment.

Section 7. Handling and Storage

Precautions for safe handling

Safe handling advice: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep container closed when not in use. Follow all MSDS/label precautions even after the container is emptied because it may retain product residues. The need for grounding and bonding of containers in accordance with OSHA 29 CFR 1910.106 and NFPA 77 should be assessed for all product transfers. Container hazardous when empty. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container. Provide good room ventilation even at ground level (vapors are heavier than air).

Advice on protection against fire and explosion: Take precautionary measures against static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Vapors are heavier than air and may spread along floors.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep in the original container at a temperature not exceeding 30°C (86°F). Fill the container by approximately 90 % as oxygen (air) is required for stabilization. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. Store in a cool, dry place. Do not store in direct sunlight. Keep container closed when not in use. Can polymerize with intense heat release.

Further information: Improper disposal or re-use of this container may be dangerous and illegal.

Section 8. Exposure Controls / Personal Protection

Control parameters

Exposure Limit Information

HYDROXYPROPYL METHACRYLATE (CAS Number 27813-02-1)			
Occupational Exposure Values			Remark(s):
ACGIH TLV-TWA			not established
ACGIH TLV-STEL			not established

OSHA PEL-TWA			not established
OSHA PEL-STEL			not established
NIOSH REL-TWA			not established
NIOSH REL-STEL			not established
OEL-TWA (North Carolina)			not established
OEL-STEL (North Carolina)			not established
OEL-TWA (Alberta)			not established
OEL-STEL (Alberta)			not established
OEL-TWA (British Columbia)			not established
OEL-STEL (British Columbia)			not established
OEL-TWA (Ontario)			not established
OEL-STEL (Ontario)			not established
OEL-TWA (Quebec)			not established
OEL-STEL (Quebec)			not established
OEL-TWA (Mexico)			not established
OEL-STEL (Mexico)			not established
METHACRYLIC ACID (CAS Number 79-41-4)			
Occupational Exposure Values			Remark(s):
ACGIH TLV-TWA	20 ppm	70 mg/m ³	
ACGIH TLV-STEL			not established
OSHA PEL-TWA			not established
OSHA PEL-STEL			not established
OEL-TWA (Alberta)	20 ppm	70 mg/m ³	
OEL-STEL (Alberta)			not established
OEL-TWA (British Columbia)	20 ppm		
OEL-STEL (British Columbia)			not established
OEL-TWA (Ontario)	20 ppm	70 mg/m ³	
OEL-STEL (Ontario)			not established
OEL-TWA (Quebec)	20 ppm	70 mg/m ³	
OEL-STEL (Quebec)			not established
OEL-TWA (Mexico)			not established
OEL-STEL (Mexico)			not established

Exposure controls

Engineering controls: Use process enclosures, local exhaust ventilation or other engineering controls to control airborne exposure.



Personal protective equipment

Protective measures: Do not breathe vapors. Avoid contact with eyes and skin. When using do not eat, drink or smoke.

A safety shower and eye wash fountain should be readily available. To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures: Store work clothing separately. Take off all contaminated clothing immediately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after work; apply skin cream.

Respiratory protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection: butyl rubber gloves (0.3 mm), Break through time 480 min (EN 374)
In practice, due to variable exposure conditions, this information can only be an aid to orientation for the selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the end user.

Splash protection: nitrile rubber gloves (minimal thickness 0.4 mm)

General information: Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

Eye protection: Use safety glasses (ANSI Z87.1 or approved equivalent).

Skin and body protection: On handling of larger quantities: face mask, chemical-resistant boots and apron

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Color: colorless to yellowish

Form: liquid

Odor: ester-like

Odor Threshold: No data available

Physical state: liquid

Melting point/freezing point: -90°C (1,013 hPa)
Method: OECD 102
-130°F

Boiling point/boiling range: 209°C (1,013 hPa)
Method: OECD 103
408°F

Flash point: 101°C (DIN 51758)
214°F (Pensky Martens Closed Cup)

Evaporation rate: is slower than butyl acetate

Ignition temperature: 355°C (DIN 51794)
671°F (DIN 51794)

Auto-ignition temperature: No data available

Decomposition temperature: This product is stable under normal storage conditions.

Impact sensitivity: No data available

Lower explosion limit: No data available

Upper explosion limit: No data available

Flammability (solid, gas): not applicable

Vapor pressure: 0.11 hPa (= mbar) at 20°C / 68°F (OECD 104, dynamic method)

Density: 1.03 g/cm³ at 20°C / 68°F

Relative density: No data available

Relative vapor density (related to air): is heavier than air

Solubility in water: 107 g/l at 25°C / 77°F

Solubility (quantitative): No data available

Solubility (qualitative): miscible with most organic solvents

pH: 6 (50 g/l) (20°C)
(68°F)

n-Octanol/water partition coefficient: log Pow 0.97, (measured; shake-flask) source: literature
(hydroxypropyl methacrylate)

Viscosity (dynamic): 6.2 mPa·s 6.2 mPa·s at 30°C / 86°F

Viscosity (kinematic): 8.88 mm²/s (20°C) (DIN 51562)
8.88 mm²/s (68°F)

Other information

none

Section 10. Stability and Reactivity

Chemical stability: This product is stable under normal storage conditions.

Possibility of hazardous reactions: Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

Conditions to avoid: Avoid light effect / sun rays. Keep away from heat and sources of ignition. The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.

Incompatible materials: Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.
 Free radical initiators.
 Mineral acids.

Hazardous decomposition products: None when used as directed.

Section 11. Toxicological Information

Information on toxicological effects

toxicokinetics, metabolism & distribution	The substance is rapidly metabolized	
Acute Oral Toxicity	LD50 rat, OECD 401, limit test no evidence for hazardous properties Related to substance: hydroxypropyl methacrylate LD50 rat Related to substance: methacrylic acid	> 2,000 mg/kg 1,320 mg/kg
Acute Inhalational Toxicity	LC50 rat, OECD 403 Related to substance: methacrylic acid	7.1 mg/l
Acute Dermal Toxicity	LD50 rabbit Related to substance: hydroxypropyl methacrylate LD50 rabbit Related to substance: methacrylic acid	> 5,000 mg/kg 500 - 1,000 mg/kg
Caustic burning / irritation of skin	Properties of components in summary. Related to substance: product	irritating
Serious eye damage/eye irritation	Properties of components in summary. Related to substance: product	irritating
Respiratory/skin sensitization	guinea pig In animal experiments the substance shows low resp. no ability as a sensitizer. There are indications of a sensitizing effect of the substance in man. Related to substance: hydroxypropyl methacrylate	
Aspiration hazard	no evidence for hazardous properties (structure-activity-relationships) (analogy)	
Mutagenicity assessment	Positive as well as negative results in in vitro mutagenicity/ genotoxicity tests. No experimental indication of genotoxicity in vivo available. In summary not mutagenic according to internationally accepted criteria. Related to substance:	

	hydroxypropyl methacrylate	
Carcinogenicity	no specific test data available no evidence for hazardous properties (structure-activity-relationships) (analogy) Related to substance: product No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.	
Reprotoxicity / teratogenicity	No indications of toxic effects were observed in reproduction studies in animals. Related to substance: product	
CMR assessment	CMR: no	
Specific Target Organ Toxicity - Single exposure	respiratory tract, (irritation) Specific target organ toxicity - single exposure Category 3 (UN-GHS) Related to substance: methacrylic acid	
Specific Target Organ Toxicity - Repeated exposure	no evidence for hazardous properties	
Toxicity on Repeated Administration	rat, oral, 49 d, OECD 422 Related to substance: hydroxypropyl methacrylate	NOAEL 300 mg/kg

General information: Avoid contact with the skin and eyes and inhalation of the product vapors.

Section 12. Ecological Information

Toxicity

Aquaticity, fish	LC50 Leuciscus idus, DIN 38412 section 15, 48 h (own study) Related to substance: hydroxypropyl methacrylate	493 mg/l
Aquaticity, invertebrates	EC50 Daphnia magna, OECD 202, 48 h Related to substance: hydroxypropyl methacrylate NOEC Daphnia magna, OECD 202, 21 d Related to substance: hydroxypropyl methacrylate	> 143 mg/l 45.2 mg/l
Aquaticity, algae/aquatic plants	EC50 Pseudokirchneriella subcapitata, OECD 201, 72 h Related to substance: hydroxypropyl methacrylate NOEC Pseudokirchneriella subcapitata, OECD 201, 72 h Related to substance: hydroxypropyl methacrylate	> 97.2 mg/l 97.2 mg/l
Toxicity in	EC10 Pseudomonas putida, Bringmann-Kühn ,	1,140 mg/l



microorganisms	16 h (own study) Related to substance: hydroxypropyl methacrylate	
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Persistence and degradability

Persistence and degradability: Readily biodegradable, according to appropriate OECD test. The substance photodegrades rapidly when exposed to air.

Biodegradability: readily biodegradable Properties of components in summary. Related to substance: product

Bioaccumulative potential

Bioaccumulation: Accumulation in organisms is not expected due to the coefficient of distribution of n-octanol in water (log Pow).

Mobility in soil

Mobility: Very sparingly volatile from the aqueous phase. Binding to the solid soil phase, sediment or clarification sludge is not expected. The substance is distributed mainly into the water phase and the soil.

Results of PBT and vPvB assessment

PBT and vPvB assessment: PBT: no

vPvB: no

Other adverse effects

General Information: Prevent substance from entering soil, natural bodies of water and sewer systems.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

US DOT Hazard Classification: Not subject to the regulations on dangerous goods.

Canadian TDG Classification: Not subject to the regulations on dangerous goods.

Shipment by sea IMDG/GGVSee: Not dangerous according to transport regulations.

Air transport ICAO/IATA: Not dangerous according to transport regulations.



Section 15. Regulatory Information

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

INVENTORY INFORMATION

- REACH (EU): registered
- TSCA (USA): listed or exempted
- DSL (CDN): listed or exempted
- AICS (AUS): listed or exempted
- METI (J): listed or exempted
- ECL (KOR): listed or exempted
- PICCS (RP): listed or exempted
- IECSC (CN): listed or exempted
- HSNO (NZ): listed or exempted
- ECS (Taiwan): listed or exempted

US FEDERAL REGULATORY INFORMATION

Component / CASRN	TPQ [lbs]	CERCLA RQ [lbs] (40CFR302.4)	SARA 302 List of EHS	SARA 313 (40CFR372)	TSCA 12b
hydroxypropyl methacrylate /27813-02-1	NONE	NONE	NO	NO	NO
methacrylic acid /79-41-4	NONE	NONE	NO	NO	NO

COMPONENT CLASSIFICATION UNDER CLEAN AIR ACT SECTION 112

Component / CASRN	Weight %	HAP	EHAP
NONE			

US STATE REGULATORY INFORMATION

Component / CASRN	New Jersey RTK	Pennsylvania RTK	Massachusetts RTK	California Proposition 65 Cancer	California Proposition 65 Reproductive
Hydroxypropyl methacrylate/27813-02-1	NO	NO	NO	NO	NO
methacrylic acid/ 79-41-4	YES	YES	YES	NO	NO

This product contains (a) chemical(s) known to the State of California to cause cancer.



CANADIAN REGULATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation and the MSDS contains all information required by the Controlled Products Regulations.

This is a controlled product.
WHMIS:D2B

Component / CASRN	NPRI
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NONE

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 6/5/2015

