SECTION 1: Identification

1.1 GHS Product identifier

Product name 2-hydroxypropyl acrylate

1.2 Other means of identification

Product number -
Other names 2-HYDROXYPROPYL ACRYLATE; 2-Propenoic acid, 2-hydroxypropyl ester

1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research uses.
Uses advised against no data available

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Acute toxicity - Category 3, Oral
Acute toxicity - Category 3, Dermal
Skin corrosion, Sub-category 1B
Skin sensitization, Category 1
Acute toxicity - Category 3, Inhalation

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger
Hazard statement(s)
H301 Toxic if swallowed
H311 Toxic in contact with skin
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
H331 Toxic if inhaled

Precautionary statement(s)
Prevention
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P271 Use only outdoors or in a well-ventilated area.

Response
P301+P316 IF SWALLOWED: Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P316 Get emergency medical help immediately.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P317 If skin irritation or rash occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.

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

Disposal
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2-hydroxypropyl acrylate	2-hydroxypropyl acrylate	999-61-1	213-663-8	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Refer immediately for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower for at least 15 minutes. Refer immediately for medical attention.

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer immediately for medical attention.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Extinguishing methods: Alcohol foam

5.2 Specific hazards arising from the chemical

Combustible. Gives off irritating or toxic fumes (or gases) in a fire. Above 65Â°C explosive vapour/air mixtures may be formed.

5.3 Special protective actions for fire-fighters

Use water spray, dry powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

ACCIDENTAL RELEASE MEASURES. Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Above 65Â°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Separated from food and feedstuffs. Cool. Keep in the dark. Store only if stabilized. See Notes. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.Keep tightly closed.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 0.5 ppm as TWA; (skin); (SEN)

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	COLOURLESS LIQUID.
Colour	Colorless liquid
Odour	Faint unpleasant odor
Melting point/freezing point	Freezing point: -30 deg C
Boiling point or initial boiling point and boiling range	77ÂºC 5mm
Flammability	Class IIIA Combustible Liquid: Fl.P. at or above 140Â°F and below 200Â°F.
Lower and upper explosion limit/flammability limit	Lower 1.4 at 212 deg F (100 deg C)
Flash point	79.9ÂºC
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	8.2 mmÂ²/s at 20Â°C
Solubility	Miscible with water and oxygenated solvents
Partition coefficient n-octanol/water	log Kow = 0.35
Vapour pressure	0.17 mm Hg at 25 deg C (est)
Density and/or relative density	1.049 g/cm3
Relative vapour density	4.5 (Air = 1)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The substance may polymerize due to heating and under the influence of light, and peroxides. Decomposes on heating. This produces toxic and corrosive fumes including acrolein. Reacts violently with strong acids, strong bases, strong oxidants and peroxides. This generates fire hazard.
The substance may polymerize due to heating and under the influence of light, and peroxides. Decomposes on heating. This produces toxic and corrosive fumes including acrolein. Reacts violently with strong acids, strong bases, strong oxidants and peroxides. This generates fire hazard.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

No data.The substance may polymerize due to heating and under the influence of light, and peroxides. Decomposes on heating. This produces toxic and corrosive fumes including acrolein. Reacts violently with strong acids, strong bases, strong oxidants and peroxides. This generates fire hazard.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Water [Note: Can become unstable at high temperatures & pressures or may react with water with some release of energy, but not violently.]

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 250 mg/kg
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. If swallowed the substance may cause vomiting and could result in aspiration pneumonitis. See Notes.

STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitization. See Notes.

Aspiration hazard

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20Â°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50; Species: Pimephales promelas (Fathead minnow, juvenile age 28-34 days, weight 0.134 g, length 20.9 mm); Conditions: freshwater, flow through, hardness 45.3 mg/L CaCO3, alkalinity 47.0 mg/L CaCO3; Concentration: 3100 ug/L for 96 hr />97% purity
- Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna; Conditions: static; Concentration: 24 mg/L for 48 hr; Effect: immobilization
- Toxicity to algae: EC50; Species: Pseudokirchneriella subcapitata; Conditions: static; Concentration: 3.53 mg/L for 96 hr; Effect: biomass
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Biodegradation data specific to 2-hydroxypropyl acrylate were not located; however, results from two ready biodegradation studies are available for the commercial hydroxypropyl acrylate isomer mixture which contains approximately 70-80% 2-hydroxypropyl acrylate and 20-30% 1-methyl-2-hydroxyethyl acrylate(1,2). Hydroxypropyl acrylate, present at 100 mg/L, reached 83% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1,2). Hydroypropyl acrylate, present at 3 mg/L, reached 34.9% of its theoretical BOD after 4 weeks using a domestic activated sludge inoculum in the closed bottle test for ready biodegradability(1).

12.3 Bioaccumulative potential

An estimated BCF of 3.2 was calculated in fish for 2-hydroxypropyl acrylate(SRC), using a log Kow of 0.35(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

The Koc of 2-hydroxypropyl acrylate is estimated as 4.4(SRC), using a log Kow of 0.35(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that 2-hydroxypropyl acrylate is expected to have very high mobility in soil.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN2927 (For reference only, please check.) IMDG: UN2927 (For reference only, please check.) IATA: UN2927 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (For reference only, please check.) IMDG: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (For reference only, please check.) IATA: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.) IMDG: 6.1 (For reference only, please check.) IATA: 6.1 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.) IMDG: I (For reference only, please check.) IATA: I (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No IMDG: No IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2-hydroxypropyl acrylate	2-hydroxypropyl acrylate	999-61-1	213-663-8
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Not Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	July 15, 2019

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association

- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Do NOT take working clothes home.Skin cross-sensitization with other acrylates is possible.An added stabilizer or inhibitor can influence the toxicological properties of this substance; consult an expert.The effectiveness of phenolic inhibitors is dependent on the presence of oxygen. Store under air rather than inert atmosphere.See ICSC 1742.