

Chemical Safety Data Sheet MSDS / SDS

2-HYDROXYPROPYL ACRYLATERevision Date:2024-12-21 Revision Number:1

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

Product name : 2-HYDROXYPROPYL ACRYLATE
CBnumber : CB0766917
CAS : 999-61-1
EINECS Number : 213-663-8
Synonyms : 2-HYDROXYPROPYL ACRYLATE,2HPA

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 400-158-6606

SECTION 2: Hazards identification**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

Label elements**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.

Other hazards

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: 2-HYDROXYPROPYL ACRYLATE
Synonyms	: 2-HYDROXYPROPYL ACRYLATE,2HPA
CAS	: 999-61-1
EC number	: 213-663-8
MF	: C6H10O3

SECTION 4: First aid measures

Description of 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.

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

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: Firefighting measures

Extinguishing media

Extinguishing methods: Alcohol foam

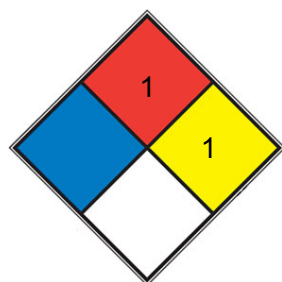
Specific Hazards Arising from the Chemical

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

Advice for firefighters

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

NFPA 704



■ HEALTH

Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion

■ FIRE 1 can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

■ REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

□ SPEC.

□ HAZ.

SECTION 6: Accidental release measures

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.

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.

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

Precautions for safe handling

NO open flames. Above 65°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.

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

Control parameters

Occupational Exposure limit values

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

Biological limit values

no data available

Exposure controls

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

Individual protection measures

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

Information on basic physicochemical properties

Physical state	Clear to light yellow 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	77°C 5mm
Flammability	Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.
Lower and upper explosion limit/flammability limit	Lower 1.4 at 212 deg F (100 deg C)
Flash point	79.9°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	8.2 mm ² /s at 20°C
Solubility	Miscible with water and oxygenated solvents
Partition coefficient n-octanol/water	log K _{ow} = 0.35
Vapour pressure	0.17 mm Hg at 25 deg C (est)
Density and/or relative density	1.049 g/cm ³
Relative vapour density	4.5 (Air = 1)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

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.

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Chemical stability

no data available

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.

Conditions to avoid

no data available

Incompatible materials

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

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 20°C.

SECTION 12: Ecological information

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 µg/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

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). Hydroxypropyl 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).

Bioaccumulative potential

An estimated BCF of 3.2 was calculated in fish for 2-hydroxypropyl acrylate(SRC), using a log K_{ow} 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).

Mobility in soil

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

Other adverse effects

no data available

SECTION 13: Disposal considerations

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

UN Number

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

IMDG: UN2927 (For reference only, please check.)

IATA: UN2927 (For reference only, please check.)

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.)

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.)

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.)

Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

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.

PICCS

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

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>
Chemical Book

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?pagelD=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.

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.