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Safety Data Sheet

Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:
Product name: 2-Hydroxyethyl methacrylate
SDS No. : 3806E-2
Relevant identified uses of the substance or mixture and uses advised against
Research and Development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607

Section 2. Hazards identification

GHS classification and label elements of the product
Classification of the substance or mixture
HEALTH HAZARDS
Serious eye damage/eye irritation: Category 2
Skin sensitization: Category 1
(Note) GHS classification without description: Not classified/Classification not possible
Label elements

Signal word: Warning
HAZARD STATEMENT
H319 Causes serious eye irritation
H317 May cause an allergic skin reaction
PRECAUTIONARY STATEMENT
Prevention
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash contaminated parts thoroughly after handling.
P280 Wear protective gloves.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/face protection.
Response
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
Disposal
P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	Chemicals No, Japan	Chemical formula
2-Hydroxyethyl methacrylate	96(min)	868-77-9	2-1044	CH2:C(CH3)COOCH 2CH2OH

Note : The figures shown above are not the specifications of the product.

Impurities

Diethylene glycol, monomethacrylate ≦2.8% (CAS No.2351-43-1)

Stabilizing additives

4-Methoxyphenol(p-) (CAS No.150-76-5)

Section 4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

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 SWALLOWED

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.

*Fire Service Act Group 4 Hazardous Materials

Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System

Sprinkler System

Dry Chemical Extinguishing System-Others (except for phosphates etc., Hydrogen Carbonates etc.)

Fire Extinguisher Discharging Jet Water/Spraying Water
Fire Extinguisher Discharging Jet Loaded Liquid
Fire Extinguisher Discharging Dry Extinguishing agents-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Water Bucket or Water Tank
*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.
Avoid contact with eyes.

Safety Measures

Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands et al thoroughly after handling.
When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity".

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.
Store in a cool, dry place. Do not store in direct sunlight.
Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Control value and concentration standard value are not available in ISHA.

Adopted value

(4-Methoxyphenol(p-))
ACGIH(1992) TWA: 5mg/m3 (Eye irr; skin dam)

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.

Individual protection measures

Recommend to use protective equipment in conformity with the standards.
Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid
Color: Colorless
Odor: Slightly characteristic odor
Melting point/Freezing point: < -60℃
Boiling point or initial boiling point: (2-Hydroxyethyl methacrylate)250℃

Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Flash point: (2-Hydroxyethyl methacrylate)(C.C.) 97℃
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity: 8.4 mm2/s (20℃)
Solubility:
Solubility in water: Miscible
Solubility in solvent data is not available.
n-Octanol/water partition coefficient: log Pow0.42
Vapor pressure: 17 Pa (25℃)
Density and/or relative density: 1.07 g/cm3
Relative vapor density (Air=1): 4.5
Particle characteristics data is not available.
Other information
Other information is not available.

Section 10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
(2-Hydroxyethyl methacrylate)
The substance will polymerize due to heating, on contact with peroxides, and under the influence of light. Heating may cause violent combustion or explosion. This produces acrid smoke. The substance may spontaneously polymerize if it is not stabilized. (ICSC 1724)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Peroxides
Hazardous decomposition products
Carbon oxides

Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Data for components of the product]
[GHS Cat. Japan, base data]
(2-Hydroxyethyl methacrylate)
rat LD50=5050mg/kg (SIDS, 2005; SIDS Dossier, 2005); rat LD50>4000mg/kg (SIDS Dossier, 2005)
(4-Methoxyphenol(p-))
rat LD50=1600mg/kg (ACGIH, 1997; PATTY, 6th, 2012)

Acute toxicity (Dermal)
[Data for components of the product]
[GHS Cat. Japan, base data]
(2-Hydroxyethyl methacrylate)
rabbit LD50 >3000mg/kg (SIDS, 2005; DFGOT vol. 13, 1999)
(4-Methoxyphenol(p-))
rabbit LD50>2000mg/kg (NICNAS IMAP, 2018; REACH Registration dossier, Accessed Oct. 2018)

Irritant properties
Skin corrosion/irritation data is not available.
Serious eye damage/irritation
[Product]
Category 2, Causes serious eye irritation
[Data for components of the product]
[GHS Cat. Japan, base data]
(2-Hydroxyethyl methacrylate)
rabbit highly irritation (SIDS, 2005)
(4-Methoxyphenol(p-))
rabbit mild to moderate irritation recover within 7 days (NICNAS IMAP, Accessed Oct. 2018)

Sensitization
Skin sensitization
[Product]
Category 1, May cause an allergic skin reaction
[Data for components of the product]
[GHS Cat. Japan, base data]
(2-Hydroxyethyl methacrylate)
cat. 1; SIDS, 2005; DFGOT vol. 13, 1999

Mutagenic effects data is not available.
Carcinogenic effects data is not available.
Reproductive toxicity data is not available.
Specific target organ toxicity (STOT)
STOT-single exposure data is not available.
STOT-repeated exposure data is not available.
Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[GHS Cat. Japan, base data]
(2-Hydroxyethyl methacrylate)
Algae (Pseudokirchneriella subcapitata) EC50 (speed method)=710mg/L/72hr (MOE Japan, 2017);
Fish (top minnow) LC50>100mg/L/96hr; Crustacea (Daphnia magna) EC50=380mg/L/48hr (both MOE Japan, 2017; OECD SIDS, 2001)
(4-Methoxyphenol(p-))
Crustacea (Daphnia magna) EC50=2.2mg/L/48hr (NLM HSDB, 2018; EPA/OPPT)
Hazardous to the aquatic environment, long-term (chronic)
[GHS Cat. Japan, base data]
(2-Hydroxyethyl methacrylate)

Crustacea (Daphnia magna) NOEC (Reproductive inhibition)=24mg/21days (MOE Japan, 2017)

Water solubility

(2-Hydroxyethyl methacrylate)

100 g/100 ml (PHYSPROP_DB, 2008)

(4-Methoxyphenol(p-))

4 g/100 ml (25℃) (ICSC, 2004)

Persistence and degradability

[Data for components of the product]

(2-Hydroxyethyl methacrylate)

Rapidly degradable (BOD_Degradation : 95% (CSCL DB, 1989))

(4-Methoxyphenol(p-))

Rapidly degradable (BOD_Degradation : 86% (CSCL DB, 1990))

Bioaccumulative potential

[Data for components of the product]

(2-Hydroxyethyl methacrylate)

Log Kow=0.47 (SRC PHYSPROP DB, 2017)

(4-Methoxyphenol(p-))

log Kow=1.58 (PHYSPROP DB, 2018)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

Environmental hazards

Marine pollutants (yes/no) : no

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

4-Methoxyphenol(p-); 2-Hydroxyethyl methacrylate

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)
IATA Dangerous Goods Regulations (65th Edition) 2024
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2024 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2023 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.
The GHS classification data given here is based on current Japan official data (NITE published in 2022).