



Safety Data Sheet

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

Product identifier:

Product name: Glycidyl methacrylate

SDS No. : 3458E-3

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****PHYSICAL AND CHEMICAL HAZARDS**

Flammable liquids: Category 4

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Acute toxicity (Dermal): Category 3

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Skin sensitization: Category 1

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 1B

Reproductive toxicity: Category 1B

Specific target organ toxicity – single exposure: Category 1 (respiratory system)

Specific target organ toxicity – repeated exposure: Category 1 (respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 2

Hazardous to the aquatic environment, long-term (chronic): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

Combustible liquid

Harmful if swallowed

Toxic in contact with skin

Causes severe skin burns and eye damage

May cause an allergic skin reaction

Suspected of causing genetic defects

May cause cancer

May damage fertility or the unborn child



Causes damage to organs (respiratory system)
Causes damage to organs through prolonged or repeated exposure (respiratory system)
Toxic to aquatic life
Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT**Prevention**

Avoid release to the environment.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash contaminated parts thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media to extinguish.
Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
If skin irritation or rash occurs: Get medical advice/attention.
Take off immediately all contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

Store in a well-ventilated place.

Disposal

Dispose of contents/container in accordance with local/national regulation.

Specific Physical and Chemical hazards

Heating may cause fire.

Section 3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Ingredient name:Glycidyl methacrylate
Content (%):96(min)
Chemical formula:CH₂:C(CH₃)COOC₃H₅O
Chemicals No, Japan:2-1041
CAS No.:106-91-2
MW:142.15
ECNO:203-441-9

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

Stabilizing additives

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



Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

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 (or hair)

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. Do NOT induce vomiting.

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

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO₂ to extinguish.

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – other (except for phosphate etc.,hydrogen carbonate etc.)

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – other (except for phosphate etc.,hydrogen carbonate etc.)

Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

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 full face piece operated positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

**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.

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.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Take off immediately all 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.

Keep under lock and key.

Container and packaging materials for safe handling

Glass

Stainless steel

Section 8. Exposure controls/personal protection**Control parameters****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**Respiratory protection**

Wear respiratory protection.

Hand protection



Wear protective gloves.
Eye protection
Wear eye/face protection.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid
Color: Colorless, Clear
Odor: Characteristic odour
Melting point/Freezing point: -65°C
Boiling point or initial boiling point: 189°C
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: (Glycidyl methacrylate)83°C
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
 Solubility in water: 5 g/100 ml (25°C)
 n-Octanol/water partition coefficient: log Pow0.96
 Vapor pressure: 0.42 kPa (25°C)
 Density and/or relative density: 1.07
 Relative vapor density (Air=1): 4.9
 Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

The substance may polymerize due to heating and under the influence of light, peroxides and bases. Reacts violently with strong acids, strong bases and strong oxidants. This generates fire hazard. (ICSC 1679)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong acids, Bases, Strong oxidizing agents, 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]

(Glycidyl methacrylate)



rat LD50=451mg/kg (OEL Documentations (JSOH), 2018)

(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]

(Glycidyl methacrylate)

rabbit LD50=480mg/kg (SIAR, 2002)

(4-Methoxyphenol(p-))

rabbit LD50>2000mg/kg (NICNAS IMAP, 2018; REACH Registration dossier, Accessed Oct. 2018)

Irritant properties

Skin corrosion/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

rabbit moderate skin necrosis (2/6 rabbits) (CLH Report, 2015) et al.

Serious eye damage/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

skin corrosion/irritation cat.1 (MHLW/MOE GHS classification results, 2020); rabbit

moderate to severe irritation (GESTIS, Access on April 2020)

(4-Methoxyphenol(p-))

rabbit mild to moderate irritation recover within 7 days (NICNAS IMAP, Accessed Oct. 2018)

Sensitization

Skin sensitization

[Data for components of the product]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

cat. 1A; JSOH Occupational sensitizers/skin Group 2 (Journal of occupational health (JSOH), 2018)

Germ cell mutagenicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

cat. 2; SIAR, 2002 et al.

Carcinogenicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

cat.1B; IARC Gr. 2A (IARC 125, In prep.) et al.

[IARC]

(Glycidyl methacrylate)

Group 2A : Probably carcinogenic to humans

[EU]

(Glycidyl methacrylate)

Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

cat. 1B; SIAR, 2002; CLH Report, 2015 et al.

Specific target organ toxicity (STOT)

STOT-single exposure



[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

respiratory system (SIAR, 2002)

STOT-repeated exposure

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

(Glycidyl methacrylate)

respiratory system (MOE Result of the initial environmental risk assessment of chemicals vol. 17, 2019)

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]

(Glycidyl methacrylate)

Fish (*Oryzias latipes*) LC50=2.8mg/L/96hr (SIAR, 2002)

(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]

(Glycidyl methacrylate)

Crustacea (*Daphnia magna*) NOEC=1.0mg/L/21days (MOE Results of Eco-toxicity tests of chemicals, 1996)

Water solubility

(Glycidyl methacrylate)

5 g/100 ml (25°C) (ICSC, 2006)

(4-Methoxyphenol(p-))

4 g/100 ml (25°C) (ICSC, 2004)

Persistence and degradability

[Data for components of the product]

(Glycidyl methacrylate)

Rapidly degradable (BOD_Degradation : 94%/4 weeks (METI Existing Chemical Substances Safety Inspections Data, 1991))

(4-Methoxyphenol(p-))

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

Bioaccumulative potential

[Data for components of the product]

(Glycidyl methacrylate)

log Kow=0.81 (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

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : 2922

UN Proper Shipping Name :

CORROSIVE LIQUID, TOXIC, N.O.S.

Class or division (Transport hazard class) : 8

Subsidiary hazard(s) : 6.1

Packing group : I

ERG GUIDE No.: 154

Special provisions No.: 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 2922

UN Proper Shipping Name :

CORROSIVE LIQUID, TOXIC, N.O.S.

Class or division (Transport hazard class) : 8

Subsidiary hazard(s) : 6.1

Packing group : I

Special provisions No.: 274

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 2922

UN Proper Shipping Name :

CORROSIVE LIQUID, TOXIC, N.O.S.

Class or division (Transport hazard class) : 8

Subsidiary hazard(s) : 6.1

Hazard labels : Corrosive & Toxic

Packing group : I

Special provisions No.: A3; A803

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

Glycidyl methacrylate; 4-Methoxyphenol(p-)

Other regulatory information

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

Section 16. Other information

GHS classification and labelling

Flammable liquids, Category 4: H227 Combustible liquid

Acute toxicity, Category 4: H302 Harmful if swallowed

Acute toxicity, Category 3: H311 Toxic in contact with skin



Skin corrosion/irritation, Category 1: H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation, Category 1: H318 Causes serious eye damage
Skin sensitization, Category 1: H317 May cause an allergic skin reaction
Germ cell mutagenicity, Category 2: H341 Suspected of causing genetic defects
Carcinogenicity, Category 1B: H350 May cause cancer
Reproductive toxicity, Category 1B H360 May damage fertility or the unborn child
STOT – single exposure, Category 1: H370 Causes damage to organs
STOT – Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure
Hazardous to the aquatic environment, short-term (acute), Category 2: H401 Toxic to aquatic life
Hazardous to the aquatic environment, long-term (chronic), Category 3: H412 Harmful to aquatic life with long lasting effects

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2020 Edition (Incorporating Amendment 40-20)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2022 TLVs and BEIs. (ACGIH)
Supplier's data/information

General Disclaimer

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 2021).