

SAFETY DATA SHEET

Issued : 2010-11-24
Revised : 2015-12-03
SDS No. : EG-S314-2

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identity

·Product name: Liquid acrylic resin
·Product number: S-314

Supplier's details

·Manufacturer: CHEMITECH INC.
·Department issuing SDS: Quality-related Gr.
·Address: 4-9-1, Shinmeidai, Hamura-shi, Tokyo, 205-0023, JAPAN
·TEL No. : +81-(0)42-553-6100
·FAX No. : +81-(0)42-553-6108
·Emergency phone No. Same as above

Recommended use of the chemical and restriction on use:
UV-ray curing resin (for industrial use)

2. HAZARDS IDENTIFICATION

*GHS classification

Physical hazards

·Explosives: Not applicable
·Flammable gases: Not applicable
·Flammable aerosols: Not applicable
·Oxidizing gases: Not applicable
·Gases under pressure: Not applicable
·Flammable liquids: Category 4
·Flammable solids: Not applicable
·Self-reactive substances and mixtures:
Classification not possible
·Pyrophoric liquids: Not applicable
·Pyrophoric solids: Not applicable
·Self-heating substances and mixtures:
Classification not possible
·Substances and mixtures which, in contact with water, emit flammable gases:
Not applicable
·Oxidizing liquids: Not applicable
·Oxidizing solids: Not applicable
·Organic peroxides: Not applicable
·Corrosive to metals: Classification not possible

Health hazards

·Acute toxicity / Oral: Category 4
·Acute toxicity / Skin: Category 3
·Acute toxicity / Inhalation
- gases: Not applicable
- vapor: Classification not possible

- dust or mist: Classification not possible
- Skin corrosion / irritation: Category 1A
- Serious eye damage / eye irritation:
 - Category 1
- Respiratory sensitization: Classification not possible
- Skin sensitization: Category 1
- Germ cell mutagenicity: Classification not possible
- Carcinogenicity: Classification not possible
- Toxic to reproduction: Classification not possible
- Specific target organ systemic toxicity
 - Single exposure: Classification not possible
 - Repeated exposure: Category 1 (respiratory system)
- Aspiration hazard: Classification not possible

Environmental hazards

- Hazardous to the aquatic environment
 - Acute: Category 3
 - Chronic: Classification not possible

Symbols:



Signal words:

Danger

Hazard statement:

- Combustible liquid
- Harmful if swallowed (oral)
- Toxic in contact with skin (dermal)
- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- Causes damage to organ (respiratory system) through prolonged or repeated exposure
- Harmful to aquatic life

Precautionary statement

- Prevention:
 - Wear protective gloves / protective cloth / eye protection / face protection.
 - Avoid release to the environment.
 - Do not eat, drink or smoke when using this product.
 - Wash (hands, face and body) carefully after handling.
 - Contaminated work clothing should not be allowed out of the workplace.
 - Keep away from open flames / hot surfaces.
 - Do not breathe dust / vapor / mist / spray.
 - Avoid breathing dust / vapor / mist / spray.
- Response:
 - Rinse mouth.
 - [If inhaled] • Remove person to fresh air and keep comfortable for breathing.
 - Call a doctor / physician if you feel unwell.
 - Get medical advice / attention if you feel unwell.
 - Wash contaminated clothing before reuse.
 - [If on skin (or hair)] • Take off immediately all contaminated clothing.
 - Rinse skin with water / shower.

- [If on skin] · Wash with plenty of soap and water.
 · Get medical advice / attention if skin irritation or rash occurs.
 · Take off immediately all contaminated clothing.
 · Immediately call a doctor / physician.

- [If in eyes] · Flush eyes immediately with plenty of water for several minutes. Remove contact lenses, if worn, after initial flushing, and continue flushing.

- [If swallowed] · Rinse mouth. Do not induce vomiting. Call a doctor / physician if you feel unwell.

- Storage: · Store locked up.
 · Store in a well ventilated place. Keep cool.
- Disposal: · Dispose of contents / container to in accordance with local / regional / national / international regulation. Ask a qualified trader with approved qualification for trading.
- Others · According to the results investigated by the MHLW, the mutagenicity of 2-Hydroxyethyl acrylate has been recognized. (in Japan)

3. COMPOSITION, INFORMATION ON INGREDIENTS

- Single or mixture: Mixture
 Chemical name: Liquid acrylic resin
 Synonym: —
 Chemical characteristics: —
 Components:

Components	Contents Wt. %	CAS No.
Acrylate monomer	45 - 55	Secret
Urethane acrylate prepolymer	15 - 25	Secret
2-Hydroxyethyl acrylate	18	818-61-1
Photo-initiating agent	<10	Secret
Additive	<1.0	Secret
Methanol	<10	67-56-1
Amount	100.0	

Hazardous ingredients: 2-Hydroxyethyl acrylate, Methanol

Hazardous impurities: —

4. FIRST AID MEASURES

- Inhalation: If inhaled, remove to fresh air. Consult a physician if not recovered.
- Touched skin: Wipe off the adhered materials and flush the skin with water and soap. Consult a physician if inflammation or itching symptoms shown.
- Splashed in eyes: Flush eyes immediately with plenty of water for more than 15 minutes and consult a physician.
- Ingestion: Do not induce vomiting. Give plenty of water to drink and consult a physician as soon as possible.

The symptoms and effects should be summarized briefly:

Protection for first-aiders: —
Note to physicians: —

5. FIRE FIGHTING MEASURES

Extinguishing media: Air foam, carbon dioxide, dry sand, powder
Unsuitable extinguishing media: —
Hazardous gases produced in fire: Organic gases, carbon monoxide
Fire fighting instructions: Use appropriate extinguishing media and put out from upwind of the fire. Guard against intruders.
Protection for fire fighters: Wear appropriate protective equipment. Make fire fighting activities from upwind of the fire.

6. ACCIDENTAL RELEASE MEASURES

Safeguard(personnel): Put on impermeable protective gloves, and avoid contact and inhalation. Ventilate the room and make activities from upwind of the spill.
Precautions for environment: Prevent materials from entering waterways and sewers.
Removal
·Recovery: · If the spill is small, wipe it off with paper.
· If the spill is large, dike spill and recover it.
·Neutralization: —
·Disposal: Observe instructions in Article 13.
Prevention of secondary damage: Remove all source of ignition, stop leakage as soon as possible.

7. HANDLING AND STORAGE

Handling
·Technical measures
- Prevention of exposure: · Use protective means to avoid contact.
· Ventilate workroom to avoid inhalation.
· Wash hand and face carefully after handling.
- Prevention of fire and explosion: Keep the material away from all sources of ignition and items whose temperature is higher than 40°C.
·Precautions: —
·Precautions for safe handling: It is necessary to take countermeasures following the guidance of the Labor Standard Bureau (2) .
Storage
·Suitable storage conditions
- Suitable storage conditions: Keep the container in a cold and dark place, and keep off fire or heat sources.
- Unsuitable storage conditions: UV rays, direct sun light, heat up
·Materials to avoid contact: Acid, base, peroxide
·Containers: Keep the material in the supplied container.
(Do not transfer to other containers)

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Facilities: Ventilate the workroom and install exhaust fans on

Control concentration:	the UV irradiating or heating equipment. 200ppm : Methanol
Permissible concentration	
·ACGIH-TLV (2005):	200ppm (TWA) : Methanol
Protective means	
·For respiratory system:	Wear respirator for organic gases as required.
·For hands:	Wear protective gloves (disposable type) made of impermeable materials. * Do not use gloves made of permeable materials such as cotton.
·For eyes:	Wear goggles suitable for chemical products.
·For skin and body:	Apron (impermeable material) and long-sleeved work clothes.
·Appropriate sanitary measures:	—

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical properties

·Appearance:	Liquid
·Color:	Milky white
·Odor:	Acrylic odor
pH:	No data
Specific temperature (temperature range) at which physical properties have a discontinuity	
·Boiling point:	No data
·Boiling range:	No data
·Melting point:	No data
·Decomposition point:	No data
Flash point:	≥ 85°C
Ignition point:	No data
Explosion characteristic:	No data
Vapor pressure:	No data
Vapor density:	No data
Specific gravity:	1.1(25°C)
Solubility	
·For solvent:	Insoluble (water)
·Octanol / water distribution coefficient:	No data

10. STABILITY AND REACTIVITY

Stability:	· Stable in sealed container. · Stored in cool and dark place.
Hazardous reaction under special conditions:	Polymerization and heat generation
Conditions not to be exposed:	Visible ray, UV rays, direct sun light, heat up, fire, contact with metals, static electricity
Materials contact to be avoided:	Acid, base, peroxide
Hazardous gases produced by decomposition:	Organic gases, carbon monoxide, Carbon dioxide etc

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

- rat (oral) LD50
 - > 7,939mg/kg : Methanol
 - > 2,400mg/kg : Acrylate monomer
 - > 2,000mg/kg : Photo-initiating agent
 - > 540mg/kg : 2-Hydroxyethyl acrylate
- rabbit (dermal) LD50
 - > 15,800mg/kg : Methanol
 - > 1,100mg/kg : Photo-initiating agent
- rat (inhalation) LC50
 - > 22,500ppm/L/4h : Methanol
 - > 1.87mg/L/4h : 2-Hydroxyethyl acrylate

Local effect:

Flammables may occur in direct touch for a long time or in repeated use.

Skin Corrosion / irritation:

Irritation

- rabbit
 - Ext. severe : 2-Hydroxyethyl acrylate
 - Moderate : Acrylate monomer
Methanol
 - Negative : Photo-initiating agent

Eye Damage / irritation:

Damage

- rabbit
 - Severe : 2-Hydroxyethyl acrylate

Irritation

- rabbit
 - Moderate : Methanol
 - Negative : Photo-initiating agent

Respiratory Organs Sensitizing
or Skin Sensitization:

- Cavia porcellus (skin)
 - Positive : 2-Hydroxyethyl acrylate

Germ Cell Mutagenicity (Mutagenicity)

Mutagenicity test, Chromosomal aberration test

- Positive : 2-Hydroxyethyl acrylate

* According to the results investigated by the MHLW, mutagenicity of 2-Hydroxyethyl acrylate has been recognized that exceeds the standards stipulated in tests of the mutagenicity (using microorganism) and the chromosomal mutagenicity (using mammal cells). This product is suspected of causing health damages(1).

It is also necessary to take countermeasures following the guidance of the Labor Standard Bureau(2). (in Japan)

Micronucleus test

- Negative : Photo-initiating agent

Carcinogenicity:

No data

Reproductive tox:

No data

Target Organ Systemic Toxicity:
(Single exposure)

No data

Target Organ Systemic Toxicity:
(Repeated exposure)

respiratory system : 2-Hydroxyethyl acrylate

Aspiration Hazard No data

12. ECOLOGICAL INFORMATION

Ecotoxicity

- Fish toxicity · danio rerio LC50 / 96h
 > 24mg/L : Photo-initiating agent
- Others: · daphnia magna EC50 / 48h
 > 5.2mg/L : 2-Hydroxyethyl acrylate

Persistency/Bio-degradability: Rapidly degradable : 2-Hydroxyethyl acrylate

Accumulation in organism: No data

Mobility: No data

Harmful effect on the ozone layer: No data

13. DISPOSAL CONSIDERATIONS

Ask a qualified trader with approved qualification for trading the waste to disuse it.

14. TRANSPORTATION INFORMATION

International regulations

· UN No. : None

· Proper Shipping name: None

· Hazard Class: None

· Packing Group: None

· Marine Pollutant Material: None

Other regulations: None

Safety precautions for transportation:

Be sure containers have no leakage. Pile the containers in an orderly manner so that no collapse and damage happens during transportation.

Others: Observe all instructions in Article 7 for transportation.

Materials not to be transported together:

None

15. REGULATORY INFORMATION

Please refer to national regulations that may be relevant.

16. OTHER INFORMATION

- This information is furnished without warranty. The figures shown in this document, such as content of each component and physical properties, are not guaranteed value.
- No information about harmfulness of the product exists at present.
This SAFETY DATA SHEET is prepared for the safe handling of the product, based on the currently available information, including those from raw Material manufacturers. So, it might not be sufficient for safety use. Please pay attention in handling.
- Only ordinary uses are considered to prepare the precautions in this document. If non-ordinary use is planned, user should take additional safety measures appropriate to that purpose.
- Reference:
(1) Notification of the Labor Standard Bureau About dealing with the chemicals which

mutagenicity has been recognized 1994.6.6 No.341-2 issued by the Labor Standard Bureau.

(2) Notification of the Labor Standard Bureau Guidance for preventing health damages caused by the chemicals which mutagenicity has been recognized.1993.5.17 Appendix to the No.312-3 issued by the Labor Standard Bureau.

·This SDS may be revised when new knowledge is obtained.