

SAFETY DATA SHEET

Issued : 2013-03-19
Revised : 2016-08-24
SDS No. : EG-U2043V-2

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identity

- Product name: Liquid acrylic resin
- Product number: CHEMISEAL U-2043V

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

- dust or mist: Category 2
- Skin corrosion / irritation: Category 2
- Serious eye damage / eye irritation:
Category 1
- Respiratory sensitization: Category 1
- Skin sensitization: Category 1
- Germ cell mutagenicity: Category 2
- Carcinogenicity: Category 1A
- Toxic to reproduction: Classification not possible
- Specific target organ systemic toxicity
 - Single exposure: Category 2 (respiratory system)
 - Repeated exposure: Category 2 (respiratory tract, respiratory system, kidney)
- 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
- Toxic in contact with skin (dermal)
- Causes skin irritation
- May cause an allergic skin reaction
- Causes serious eye damage
- Fatal if inhaled (vapor, dust, mist)
- Toxic if inhaled (vapor, dust, mist)
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Suspected of causing genetic defects
- May cause cancer
- May cause damage to organs (respiratory system)
- May cause damage to organs (respiratory tract, respiratory system, kidney) through prolonged or repeated exposure
- Harmful to aquatic life

Precautionary statement

•Prevention:

- Wear protective gloves / protective cloth / eye protection / face protection.
- Wear respiratory protection.
- Avoid release to the environment.
- Do not eat, drink or smoke when using this product.
- Do not handle until all safety precautions have been read and understood.
- Obtain technical data sheet before use.
- Wash (hands, face and body) carefully after handling.

- Use only outdoors or in a well-ventilated area.
 - Use personal protective equipment as required.
 - 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.
 - Call doctor / physician.
- Response:
- [If inhaled] • If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - Call a doctor / physician if experiencing respiratory symptoms.
 - [If exposed or if you feel unwell] • Call a POISON CENTER or doctor/physician.
 - [If exposed or concerned] • Get medical advice / attention.
 - Call a doctor / physician if you feel unwell.
 - Get medical advice / attention if you feel unwell.
 - Take off contaminated clothing and wash before reuse.
 - [If on skin] • Wash with 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] • Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- Storage:
- Store in a well ventilated place. Keep container tightly closed.
 - 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.

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	20.0 – 30.0	Secret
Urethane acrylate prepolymer	10.0 – 20.0	Secret
2-Hydroxypropyl acrylate	1.0 – 5.0	25584-83-2
Photo-initiating agent	1.0 – 5.0	Secret
Additive	1.0 – 5.0	Secret
Silica	50.0 – 60.0	Secret

Amount	1 0 0 . 0
--------	-----------

Hazardous ingredients: Silica
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, oxidizing agent
 - 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 the UV irradiating or heating equipment.
- Control concentration: 0.43mg/m³ : Silica (Mineral dust)
- Permissible concentration
- ACGIH-TLV (2003):
 - 0.1mg/m³ (TWA) : Silica (as total dust)
 - 0.5ppm (TWA) : 2-Hydroxypropyl acrylate
- 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: Thixotropic liquid
 - Color: Yellow
 - 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: $\geq 80^{\circ}\text{C}$
 - Ignition point: No data
 - Explosion characteristic: No data
 - Vapor pressure: No data
 - Vapor density: No data
 - Specific gravity: No data
 - 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
- Materials contact to be avoided: Acid, base, oxidizing agent
- Hazardous gases produced by decomposition: Organic gases, carbon monoxide, Carbon dioxide etc

11. TOXICOLOGICAL INFORMATION

- Acute toxicity:
 - rat (oral) LD50
 - > 2,000mg/kg : Photo-initiating agent
 - > 380mg/kg : Additive
 - > 250mg/kg : Acrylate monomer
2-Hydroxypropyl acrylate
 - rat (dermal) LD50
 - > 900mg/kg : Acrylate monomer
 - rabbit (dermal) LD50
 - > 160mg/kg : 2-Hydroxypropyl acrylate
 - rat (inhalation) LC50
 - > 3.7mg/L : Additive
 - > 0.65mg/L : Acrylate monomer
- Local effect: Flammables may occur in direct touch for a long time or in repeated use.
- Irritation
- Skin Corrosion / irritation:
 - rabbit
 - Severe : Acrylate monomer
2-Hydroxypropyl acrylate
Additive
 - Negative : Photo-initiating agent
- Eye Damage / irritation:
 - rabbit
 - Ext. severe : 2-Hydroxypropyl acrylate
 - Severe : Additive
 - Positive : Acrylate monomer
 - Negative : Photo-initiating agent
- Sensitizing:
 - Cavia porcellus (skin)
 - Positive : Photo-initiating agent
- Germ Cell Mutagenicity (Mutagenicity)
 - chromosomal aberration test Positive : Additive
 - Microbial mutagenicity test Positive : Additive
- Carcinogenicity:
 - IARC Group 1 :Silica
- Reproductive TOX: No data

Target Organ Systemic Toxicity: respiratory system :Silica
 (Single exposure) 2-Hydroxypropyl acrylate
 Target Organ Systemic Toxicity: respiratory tract :2-Hydroxypropyl acrylate
 (Repeated exposure) respiratory system, kidney
 :Silica

Aspiration Hazard No data

12. ECOLOGICAL INFORMATION

Ecotoxicity

·Others: - Daphnia magna EC50 / 48h
 > 105mg/L : Photo-initiating agent

Persistency/Bio-degradability No data
 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.

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