

## Safety Data Sheet

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

**Product identifier:**

Product name: Acetic acid

Reference number(SDS): 31010jis\_J\_E1-4

**Product type:**

Reagent

**Details of the supplier of the safety data sheet**

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

### 2. Hazards identification

**GHS classification and label elements of the product****Classification of the substance or mixture****PHYSICAL AND CHEMICAL HAZARDS**

Flammable liquids: Category 3

**HEALTH HAZARDS**

Acute toxicity (Dermal): Category 4

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

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

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment (Acute): Category 3

**Label elements**

Signal word: Danger

**HAZARD STATEMENT**

H226-Flammable liquid and vapor

H312-Harmful in contact with skin

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage

H370-Causes damage to organs after single exposure

H402-Harmful to aquatic life

**PRECAUTIONARY STATEMENT****Prevention**

Avoid release to the environment.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Acetic acid, JUNSEI CHEMICAL CO., LTD., 31010jis\_J\_E1-4,25/06/2021

Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash contaminated parts thoroughly after handling.  
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 other than water for extinction.  
Immediately call a POISON CENTER or doctor/physician.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
IF exposed or concerned: Call a POISON CENTER or doctor/physician.  
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/shower.  
Wash contaminated clothing before reuse.  
Take off 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: Rinse mouth. Do NOT induce vomiting.

#### Storage

Store in a well-ventilated place. Keep cool.  
Store locked up.

#### Disposal

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

#### Specific Physical and Chemical hazards

Flammable liquid. Vapor/air mixture may explode.

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name: Acetic acid  
Content (%): 99.0 <  
Chemical formula: C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>  
Chemicals No, Japan: 2-688  
CAS No.: 64-19-7  
MW: 60.05  
ECNO: 200-580-7

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

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### 4. First-aid measures

#### Descriptions of first-aid measures

##### General measures

Immediately call a POISON CENTER or doctor/physician.  
Keep victim warm and quiet.  
Call emergency medical service.  
Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.  
Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

##### IF INHALED

Remove person to fresh air and keep comfortable for breathing.  
Give artificial respiration if victim is not breathing.  
Administer oxygen if breathing is difficult.  
Call a POISON CENTER or doctor/physician if you feel unwell.

**IF ON SKIN (or hair)**

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

Wash with plenty of soap and water.

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

Remove and isolate contaminated clothing and shoes.

In case of burns, immediately cool affected skin for as long as possible with child water.

Do not remove clothing if adhering to skin.

**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.

Rinse mouth. Do NOT induce vomiting.

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

If within a few minutes after ingestion, one small glass of water may be given to drink.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Sore throat. Cough. Burning sensation. Headache. Dizziness. Shortness of breath. Laboured breathing. Abdominal pain. Vomiting. Shock or collapse.

(Symptoms when skin and/or eye contact)

Pain. Redness of the skin. Blisters. Conjunctival redness of the eyes. Severe burns. Loss of vision.

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**5. Fire-fighting measures****Extinguishing media****Suitable extinguishing media**

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

**Unsuitable extinguishing media**

Unsuitable extinguishing media data is not available.

**Specific hazards arising from the substance or mixture**

Containers may explode when heated.

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

Runoff from fire control or dilution water may cause pollution.

**Advice for firefighters****Specific fire-fighting measures**

Evacuate non-essential personnel to safe area.

Cool container with water spray.

**Special protective equipment and precautions for fire-fighters**

Wear fire/flame resistant/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.

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**6. Accidental release measures****Personnel precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

**PUBLIC SAFETY:** Ventilate closed spaces before entering.

Do not touch or walk through spilled material.

**Environmental precautions**

- Runoff to sewer may create fire or explosion hazard.
- Vapor explosion hazard indoors, outdoors or in sewers.
- Avoid release to headsprings, rivers, lakes, ocean and groundwater.

**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.
- Use clean non-sparking tools to collect absorbed material.
- All equipment used when handling the product must be grounded.
- Cautiously neutralize spilled liquid with sodium carbonate only under the responsibility of an expert.

**Preventive measures for secondary accident**

- Collect spillage.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Keep out of low areas.

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**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/sparks/open flames/hot surfaces. – No smoking.

- Ground/bond container and receiving equipment.

- Use explosion-proof electrical/ventilating/lighting equipment.

- Use only non-sparking tools.

- Take precautionary measures against static discharge.

(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.

- Use personal protective equipment as required.

- When using do not eat, drink or smoke.

**Any incompatibilities**

- Strong acids, Strong bases, Strong oxidizing agents should not be mixed with the chemicals.

**Advice on general occupational hygiene**

- Wash contaminated parts thoroughly after handling.

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

- Take off contaminated clothing and wash it before reuse.

**Storage****Conditions for safe storage**

- Store in a well-ventilated place. Keep container tightly closed.

- Keep cool. Protect from sunlight.

- Store in accordance with local/national regulation.

- Store locked up.

- Container and packaging materials for safe handling data is not available.

**Specific end use(s)**

- See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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## 8. Exposure controls/personal protection

### Control parameters

Control value in MHLW is not available.

### Adopted value

JSOH(1978) 10ppm; 25mg/m<sup>3</sup>

ACGIH(2003) TWA: 10ppm;

STEL: 15ppm (URT & eye irr; pulm func)

### 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.

Wear positive pressure self-contained breathing apparatus (SCBA).

##### Hand protection

Wear protective gloves. Recommended material(s): butyl rubber

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

##### Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

##### Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless-clear

Odor: Irritant odor

Odor threshold: 0.21~1.0ppm ; 2.5~2500 mg/m<sup>3</sup>

Melting point/Freezing point: 16.7°C

Boiling point or initial boiling point: 118°C

Boiling range data is not available.

Flammability (gases, liquids and solids): Ignitable

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 5.4 vol %

Upper explosion limit: 16 vol %

Flash point: (c.c.)39°C

Auto-ignition temperature: 427°C

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: 2.4 (1.0M aqueous solution)

Dynamic viscosity: 1.056mPas(25°C)

Kinematic viscosity: 1.02mm<sup>2</sup>/s(25°C)

Solubility:

Solubility in water: Miscible

Solubility in solvent: Miscible with ethanol, diethyl ether.

n-Octanol/water partition coefficient: log Pow-0.31

Vapor pressure: 1.5 kPa (20°C)

VOC data is not available.

Evaporation rate data is not available.

Density and/or relative density: 1.04g/cm<sup>3</sup>(25°C)

Relative vapor density (Air=1): 2.1

Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1.02

Critical temperature data is not available.

No Particle characteristics data is not available.

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## 10. Stability and Reactivity

### Reactivity

Runaway polymerization will not occur.

### Chemical stability

Stable under normal storage/handling conditions.

At a low temperature, this substance may be a solid.

Flammable.

### Possibility of hazardous reactions

Reacts violently with strong oxidants. This generates fire and explosion hazard.

Reacts violently with strong bases, strong acids and many other compounds.

Attacks some forms of plastic(e.g. Vinyl chloride), rubber(e.g. Natural rubber) and coatings.

### Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Sparks.

### Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents

### Hazardous decomposition products

Carbon oxides

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[GHS Cat. Japan, base data]

rat LD50=3310mg/kg (PATTY 5th, 2001)

##### Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

rabbit LD50=1060mg/kg (PATTY 5th, 2001)

#### Irritant properties

##### Skin corrosion/irritation

[GHS Cat. Japan, base data]

rabbit/guinea pig : severe burn (PATTY 5th, 2001 et al.)

##### Serious eye damage/irritation

[GHS Cat. Japan, base data]

rabbit : permanent corneal damage (IUCLID, 2000 et al.)

Allergenic and sensitizing effects data is not available.

#### Germ cell mutagenicity

[GHS Cat. Japan, base data]

in vivo data is not available.

Reverse-mutation assay in bacteria (Ames test) :Negative(PATTY 5th, 2001)

Chromosome aberration test :Negative(PATTY 5th, 2001)

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

#### STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

blood; respiratory system (ACGIH, 2004)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

H402-Harmful to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

Crustacea (Daphnia magna) EC50=65mg/L/48hr (Aquire, 2010)

Water solubility

miscible (ICSC, 2010)

Persistence and degradability

BOD\_Degradation : 74% (Registered chemicals data check & review)

Bioaccumulative potential

log Pow=-0.17 (PHYSROP DB, 2005)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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## 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 (- if this is not the intended use).

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

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## 14. Transport Information

UN No., UN CLASS

UN No. or ID No.: 2789

UN Proper Shipping Name :

ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass

Class or division (Transport hazard class) : 8

Subsidiary hazard(s) : 3

Packing group : II

ERG GUIDE No.: 132

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2789

Proper Shipping Name :

ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass

Class or division : 8

Subsidiary hazard(s) : 3

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 2789

Proper Shipping Name :

ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass

Acetic acid, JUNSEI CHEMICAL CO., LTD., 31010jis\_J\_E1-4,25/06/2021

Class or division : 8  
Subsidiary hazard(s) : 3  
Hazard labels : Corrosive & Flamm.liquid  
Packing group : II

## Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

## Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Z

Acetic acid(Z-052)

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**15. Regulatory Information**

Safety, health and environmental regulations/legislation specific for the substance or mixture  
Chemicals listed in TSCA Inventory

Acetic acid

## Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

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

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

## Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

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**16. Other information**

## GHS classification and labelling

H226–Flam. Liq. 3: H226 Flammable liquid and vapor  
H312–Acute Tox. 4: H312 Harmful in contact with skin  
H314–Skin Corr. 1: H314 Causes severe skin burns and eye damage  
H318–Eye Dam. 1: H318 Causes serious eye damage  
H370–STOT SE 1: H370 Causes damage to organs after single exposure  
H402–Aquatic Acute 3: H402 Harmful to aquatic life

## Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39–18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2020 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2020 Recommendation on TLVs (JSOH)  
Supplier's data/information  
Chemicals safety data management system "GHS Assistant" Version 4.11 (<https://www.asahi-ghs.com/>)  
NITE Chemical Risk Information Platform "NITE-CHRIP"  
([https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop))  
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

## Definitions and Abbreviations

SDS (Safety Data Sheet)  
LD50 (Lethal Dose, 50%)



LC50 (Lethal Concentration, 50%)  
IARC (International Agency for Research on Cancer)  
ACGIH (American Conference of Governmental Industrial Hygienists)  
EPA (US Environmental Protection Agency)  
NTP (US National Toxicology Program)  
JSOH (Japan Society for Occupational Health)  
EU (European Union)  
EC50 (Effective Concentration, 50%)  
NOEC (No Observed Effect Concentration)  
BOD (Biochemical Oxygen Demand)  
COD (Chemical Oxygen Demand)  
BCF (Bioconcentration Factor)  
anh (anhydride)

**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 2019).