

## Safety Data Sheet

### 1. Product and company identification

Product name : Acetic acid  
Name of manufacturer : KANTO CHEMICAL CO., INC.  
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan  
Name of section : Electronic materials division technical department  
Telephone number : +81-3-6214-1080  
Facsimile number : +81-3-3241-1043  
Mail address : el-info@gms.kanto.co.jp  
SDS No. : GE00271

### 2. Summary of danger and Hazard

#### GHS classification

##### Physical and chemical hazard

Flammable liquids : Category 3  
Pyrophoric liquids : Out of category

##### Human health hazard

Acute toxicity(oral) : Out of category  
Acute toxicity(dermal)  
: Category 4

##### Skin corrosion/irritation

: Category 1B

##### Serious eye damage/eye irritation

: Category 1

##### Specific target organ systemic toxicity(single exposure)

: Category 1

##### Environmental hazard

##### Hazardous to the aquatic environment-acute hazard

: Category 3

##### Hazardous to the aquatic environment-chronic hazard

: Out of category

#### Pictogram or symbol



Signal word : Danger

Hazard statement : Flammable liquid and vapor  
Harmful in contact with skin  
Causes severe skin burns and eye damage  
Causes serious eye damage  
Causes damage to organs (blood, respiratory organs)  
Harmful to aquatic life

## Cautions

- Safety measurements : Keep away from ignition sources such as heat, sparks, or open flame.  
Keep containers tightly closed.  
Ground container and receiving equipment in case of transport and stirring.  
Use explosion-proof apparatus.  
Use only non-sparking tools.  
Do not breathe dust, mist, and vapor.  
Avoid release to the environment.  
Do not eat, drink or smoke when using this product.  
Wear appropriate protective gloves, glasses, clothing, face shield, or mask.  
Wash protective equipment thoroughly after use.  
Wash hands thoroughly after handling.
- First-aid measures : If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical treatment if you feel unwell.  
  
If swallowed: Rinse mouth, do not induce vomiting. Immediately get medical treatment.  
If in eyes : Rinse cautiously with water for several minutes. Get medical treatment.  
If on skin : Remove contaminated clothing and the substance. Immediately get medical treatment.  
If exposed, get medical treatment.
- Storage : Store in a cool and well-ventilated area.  
Store locked up.
- Disposal : Dispose of contents and containers appropriately in accordance with related regulations.

## 3. Composition/Information on ingredients

- Substance/Mixture : Substance  
Chemical name or commercial name : Acetic acid  
Ingredients and composition : Acetic acid min. 99.8%  
Chemical formula : CH<sub>3</sub>COOH  
CAS No. : 64-19-7  
TSCA Inventory : Registered  
EINECS No. : 2005807  
Dangerous and hazardous ingredients : Acetic acid

## 4. First aid measures

- Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.  
Skin contact : Wash the affected areas under running water.

- Eye contact : Wash the affected areas under running water for at least 15 minutes. Get medical treatment.
- Ingestion : Give the victim water or milk with egg white. Do not induce vomiting. Get medical attention.
- Protection for first aid person : Rescuers should wear proper protective equipment like rubber gloves, goggles.

#### 5. Fire fighting measures

- Extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand, foam
- Prohibited extinguishing media : None
- Particular fire fighting : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.
- Fight fire from windward.
- Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.
- Protection for firefighters : Firefighters should wear protective equipment.

#### 6. Accidental release measures

- Cautions for personnel : Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.
- Cautions for environment : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.
- Removal measure : Absorb spill with inert material (e.g., diatomaceous earth, sand) and flush spillage area with copious amounts of water.
- Prevention of second accident : Remove nearby sources of ignition and prepare extinguishing media.

#### 7. Cautions of handling and storage

##### Handling

- Engineering measures : Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Pay attention to fire.
- Cautions for safety handling : Use with an enclosed system or a local exhaust ventilation. Use in well-ventilated areas.

##### Storage

- Adequate storage condition : Store in a dark, cool place and tightly closed.
- Safety adequate container materials : Glass, Fluorine resin, Polyethylene, Polypropylene, etc

#### 8. Exposure control/Personal protection

- Engineering measures : Use with an enclosed system or a local exhaust ventilation.

Control parameters

ACGIH(2015) : 10ppm(TLV-TWA)  
15ppm (TLV-STEL)

Protective equipment

Respiration protective equipment

: Chemical cartridge respirator with acids vapor cartage or airline respirator

Hands protective equipment

: Acid resistant gloves

Eyes protective equipment

: Safety goggles

Skin and body protective equipment

: Protective clothing, protective boots

9. Physical and chemical properties

Appearance : Liquid

Color : Colorless

Odor : Acrid odor

pH : 2.5(20g/L、20°C)

Boiling point : 118.5°C

Melting point : 16.5°C

Flash point : 39°C

Auto-ignition point : 463°C

Explosion characteristics

Explosion limit : upper : 19.9vol% lower : 4.0vol%

Vapor density : 2.1

Density : 1.05g/cm<sup>3</sup> (20°C)

Solubility

Solubility in solvents : Water : Miscible

Organic solvents : Freely soluble in ethanol, glycerol.

10. Stability and reactivity

Stability : Stable under normal conditions.

Reactivity : May react with alkaine substances.

Incompatible conditions : Light, heat

Incompatible materials : Alkaline substances, Oxidizing substances

Hazardous decomposition products

: Carbon monoxide

11. Toxicological information

Acute toxicity : Oral : Out of category

Harmful in case of contact with skin(category 4)

Inhalation(vapor) : Not possible to classify because of insufficient data.

Inhalation(dust, mist) : Not possible to classify because of insufficient data.

rat oral LD50=3310mg/kg

rabbit skin LD50=1060mg/kg

Skin corrosion/irritation : Causes severe skin burns and eye damage(category 1B)

Administration of more than 50% acetic acid to experimental animals caused necrosis skin, burning or corrosion.

Serious eye damage/eye irritation

: Causes serious eye damage(category 1)

Acetic acid glacial caused destructive damage to rabbit eyes, and 16% acetic acid caused permanent corneal damage. In human accident case, corneal paralysis and opacity remained permanently.

Respiratory sensitization or Skin sensitization

: Respiratory sensitization : Not possible to classify because of insufficient data.

Skin sensitization : Not possible to classify because of insufficient data.

Mutagenicity : Not possible to classify because of insufficient data.

Classification is not possible because an available datum is only negative on in vitro mutagenicity study.

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system

: Not possible to classify because of insufficient data.

Specific target organ systemic toxicity single exposure

: Cause damage to organs (blood, respiratory organs) (category 1)

In human case, since disseminated intravascular coagulopathy, or severe hemolyzed blood were reported, it was set to category 1(blood). In human inhalation exposure case, since irritation of nose, upper respiratory organs, and lungs, and respiratory tract corrosivity, lung edema also were described, it was set to category 1(respiratory organ).

Specific target organ systemic toxicity repeated exposure

: Not possible to classify because of insufficient data.

Aspiration hazard

: Not possible to classify because of insufficient data.

## 12. Ecological information

Ecotoxicity

Fish toxicity : Harmful to aquatic life(category 3)

Chronic aquatic toxicity : Out of category

Crustacea (daphnia magna) EC50=65mg/L/48H

Persistence and degradability

: High biodegradability

Bioaccumulative potential : Low or no bioaccumulative potential in fish or shells

Mobility in soil : Not available

## 13. Disposal consideration



Residual disposal : Flush in a drain with plenty of water after neutralizing with alkaline substances. Or burn in a chemical incinerator equipped with an afterburner and scrubber.

Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

#### 14. Transport information

UN class : Class 8(Corrosive substances) P. G. II

UN number : 2789

##### Marine regulation information

UN No. : 2789

Proper shipping name : ACETIC ACID, GLACIAL

Class : 8

Sub risk : 3

Packing group : II

Marine pollutant : Not applicable

##### Aviation regulation information

UN No. : 2789

Proper shipping name : Acetic acid, glacial

Class : 8

Sub risk : 3

Packing group : II

#### 15. Regulatory information

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

#### 16. Other information

##### References

Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd. (1985)

Dangerous Properties of Industrial Materials, 6th ed. N. I. Sax Van Nostrand Reinhold Company (1984)

Registry of Toxic Effects of Chemical Substances (RTECS) 1985-86 ed. National Institute for Occupational Safety and Health (1987)

Handbook of 16817 Chemical Products, The Chemical Daily Co. (2017)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253, and it has the same required elements on the Material Safety Data Sheet (MSDS) which is prepared based on JIS Z7250:2010.