

## SAFETY DATA SHEET

Creation Date 05-May-2009

Revision Date 24-Dec-2021

Revision Number 6

### 1. Identification

**Product Name** Acetic acid, Glacial, Trace Metal Grade

**Cat No. :** A507; A507-4; A507-212; A507-500; A507P212; A507P500; A507SK212

**CAS No** 64-19-7

**Synonyms** Methanecarboxylic acid; Vinegar acid

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number** CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |              |
|-----------------------------------|--------------|
| Flammable liquids                 | Category 3   |
| Skin Corrosion/Irritation         | Category 1 A |
| Serious Eye Damage/Eye Irritation | Category 1   |

#### Label Elements

**Signal Word**  
Danger

**Hazard Statements**  
Flammable liquid and vapor  
Causes severe skin burns and eye damage

**Precautionary Statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Take precautionary measures against static discharge  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
Keep container tightly closed

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

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

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

| Component   | CAS No  | Weight % |
|-------------|---------|----------|
| Acetic acid | 64-19-7 | >95      |

### 4. First-aid measures

**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.

**Inhalation**

If not breathing, give artificial respiration. Remove from exposure, lie down. 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. Call a physician immediately.  |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.   |
| <b>Most important symptoms and effects</b> | Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

## 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | 40 °C / 104 °F  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | 427 °C / 800.6 °F   |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | 19.9 vol %  |
| <b>Lower</b>                            | 4.0 vol %   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Thermal decomposition can lead to release of irritating gases and vapors.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
3

**Flammability**  
2

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|                                  |   |
|----------------------------------|---|
| <b>Personal Precautions</b>      | Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| <b>Environmental Precautions</b> | Should not be released into the environment.  |

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. |
| <b>Storage.</b> | Corrosives area. Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents.   |

Strong bases. Metals.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component   | ACGIH TLV                   | OSHA PEL   | NIOSH IDLH   | Mexico OEL (TWA)            |
|-------------|-----------------------------|--|--|-----------------------------|
| Acetic acid | TWA: 10 ppm<br>STEL: 15 ppm | (Vacated) TWA: 10 ppm<br>(Vacated) TWA: 25 mg/m <sup>3</sup><br>TWA: 10 ppm<br>TWA: 25 mg/m <sup>3</sup> | IDLH: 50 ppm<br>TWA: 10 ppm<br>TWA: 25 mg/m <sup>3</sup><br>STEL: 15 ppm<br>STEL: 37 mg/m <sup>3</sup> | TWA: 10 ppm<br>STEL: 15 ppm |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

### Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tight sealing safety goggles. Face protection shield.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|  |                                 |
|--|---------------------------------|
| Physical State                         | Liquid                          |
| Appearance                             | Colorless                       |
| Odor                                   | vinegar-like                    |
| Odor Threshold                         | No information available        |
| pH                                     | < 2.5 10 g/L aq.sol             |
| Melting Point/Range                    | 16 - 16.5 °C / 60.8 - 61.7 °F   |
| Boiling Point/Range                    | 117 - 118 °C / 242.6 - 244.4 °F |
| Flash Point                            | 40 °C / 104 °F                  |
| Evaporation Rate                       | 0.97 (Butyl Acetate = 1.0)      |
| Flammability (solid,gas)               | Not applicable                  |
| Flammability or explosive limits       |                                 |
| Upper                                  | 19.9 vol %                      |
| Lower                                  | 4.0 vol %                       |
| Vapor Pressure                         | 1.52 kPa @ 20 °C                |
| Vapor Density                          | 2.10                            |
| Specific Gravity                       | 1.048                           |
| Solubility                             | Soluble in water                |
| Partition coefficient; n-octanol/water | No data available               |
| Autoignition Temperature               | 427 °C / 800.6 °F               |
| Decomposition Temperature              | No information available        |
| Viscosity                              | 1.53 mPa.s @ 25 °C              |
| Molecular Formula                      | C2 H4 O2                        |

Molecular Weight

60.05

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available  |
| <b>Stability</b>                        | Stable under normal conditions.   |
| <b>Conditions to Avoid</b>              | Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.                             |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong bases, Metals   |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Thermal decomposition can lead to release of irritating gases and vapors |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component   | LD50 Oral          | LD50 Dermal | LC50 Inhalation       |
|-------------|--------------------|-------------|-----------------------|
| Acetic acid | 3310 mg/kg ( Rat ) | -           | > 40 mg/L ( Rat ) 4 h |

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                        |  |
|------------------------|--|
| <b>Irritation</b>      | Causes severe burns by all exposure routes   |
| <b>Sensitization</b>   | No information available   |
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component   | CAS No  | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-------------|---------|------------|------------|------------|------------|------------|
| Acetic acid | 64-19-7 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** Not mutagenic in AMES Test

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

| Component   | Freshwater Algae | Freshwater Fish  | Microtox  | Water Flea         |
|-------------|------------------|--|---|--------------------|
| Acetic acid | -                | Pimephales promelas: LC50<br>= 88 mg/L/96h<br>Lepomis macrochirus: LC50<br>= 75 mg/L/96h | Photobacterium<br>phosphoreum: EC50 = 8.8<br>mg/L/15 min<br>Photobacterium<br>phosphoreum: EC50 = 8.8<br>mg/L/25 min<br>Photobacterium<br>phosphoreum: EC50 = 8.8<br>mg/L/5 min | EC50 = 95 mg/L/24h |

**Persistence and Degradability** Miscible with water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

| Component   | log Pow |
|-------------|---------|
| Acetic acid | -0.2    |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN2789  
 Proper Shipping Name ACETIC ACID, GLACIAL  
 Hazard Class 8  
 Subsidiary Hazard Class 3  
 Packing Group II

### TDG

UN-No UN2789  
 Proper Shipping Name ACETIC ACID, GLACIAL  
 Hazard Class 8  
 Subsidiary Hazard Class 3  
 Packing Group II

### IATA

UN-No UN2789  
 Proper Shipping Name ACETIC ACID, GLACIAL  
 Hazard Class 8  
 Subsidiary Hazard Class 3  
 Packing Group II

### IMDG/IMO

UN-No UN2789  
 Proper Shipping Name ACETIC ACID, GLACIAL  
 Hazard Class 8  
 Subsidiary Hazard Class 3  
 Packing Group II

## 15. Regulatory information

### United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification -<br>Active-Inactive | TSCA - EPA Regulatory<br>Flags |
|-----------|--------|------|--|--------------------------------|
|-----------|--------|------|--|--------------------------------|

|             |         |   |        |   |
|-------------|---------|---|--------|---|
| Acetic acid | 64-19-7 | X | ACTIVE | - |
|-------------|---------|---|--------|---|

**Legend:****TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component   | CAS No  | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|-------------|---------|-----|-----|-----------|-------|------|------|------|-------|------|
| Acetic acid | 64-19-7 | X   | -   | 200-580-7 | X     | X    | X    | X    | X     | X    |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313** Not applicable**SARA 311/312 Hazard Categories** See section 2 for more information**CWA (Clean Water Act)**

| Component   | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|-------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Acetic acid | X                          | 5000 lb                     | -                      | -                         |

**Clean Air Act** Not applicable**OSHA** - Occupational Safety and Health Administration Not applicable

**CERCLA** This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component   | Hazardous Substances RQs | CERCLA EHS RQs |
|-------------|--------------------------|----------------|
| Acetic acid | 5000 lb                  | -              |

**California Proposition 65** This product does not contain any Proposition 65 chemicals.**U.S. State Right-to-Know Regulations**

| Component   | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------|---------------|------------|--------------|----------|--------------|
| Acetic acid | X             | X          | X            | -        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.**Other International Regulations****Mexico - Grade** Moderate risk, Grade 2

## Authorisation/Restrictions according to EU REACH

| Component   | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-------------|---|---|---|
| Acetic acid | -   | Use restricted. See item 75. (see link for restriction details)               | -   |

<https://echa.europa.eu/substances-restricted-under-reach>

## Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component   | CAS No  | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|-------------|---------|----------|------------------------------|---------------------------|--|
| Acetic acid | 64-19-7 | Listed   | Not applicable               | Not applicable            | Not applicable                             |

| Component   | CAS No  | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-------------|---------|---|--|----------------------------|------------------------------------|
| Acetic acid | 64-19-7 | Not applicable  | Not applicable   | Not applicable             | Annex I - Y34                      |

## 16. Other information

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
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**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**