Acetic Acid  
CAS No 64-19-7

MATERIAL SAFETY DATA SHEET  
SDS/MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
Product name : Acetic Acid
CAS-No. : 64-19-7

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company : Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi-10002
INDIA
Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 3), H226
Skin corrosion (Category 1A), H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word
Danger
Flammable Corrosive to metals

Hazard statement(s)
H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370 + P378 In case of fire: Use dry powder or dry sand to extinguish.

Supplemental Hazard Statements

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms: Glacial acetic acid

Formula: CH3COOH

Molecular weight: 60.05 g/mol

CAS-No.: 64-19-7

EC-No.: 200-580-7

Index-No.: 607-002-00-6

Registration number: 01-2119475328-30-XXXX

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>Flam. Liq. 3; Skin Corr. 1A;</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>64-19-7</td>
<td>H226, H314</td>
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<tr>
<td>EC-No.</td>
<td>200-580-7</td>
<td>Concentration limits:</td>
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<tr>
<td>Index-No.</td>
<td>607-002-00-6</td>
<td>&gt;= 90 %: Skin Corr. 1A,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H314; 25 - &lt; 90 %: Skin Corr. 1B,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H314; 10 - &lt; 25 %: Skin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irrit. 2, H315; 10 - &lt; 25 %: Eye</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irrit. 2, H319;</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Moisture sensitive.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

<table>
<thead>
<tr>
<th>Application Area</th>
<th>Exposure routes</th>
<th>Health effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>25 mg/m3</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>25 mg/m3</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>10mg/kg BW/d</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>25 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>25 mg/m3</td>
</tr>
</tbody>
</table>

Predicted No Effect Concentration (PNEC)

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil</td>
<td>0.478 mg/kg</td>
</tr>
<tr>
<td>Marine water</td>
<td>0.3058 mg/l</td>
</tr>
<tr>
<td>Fresh water</td>
<td>3.058 mg/l</td>
</tr>
<tr>
<td>Marine sediment</td>
<td>1.136 mg/kg</td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>11.36 mg/kg</td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>85 mg/l</td>
</tr>
<tr>
<td>Aquatic intermittent release</td>
<td>30.58 mg/l</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

**Eye/face protection**
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) **Appearance**
Form: liquid
Colour: colourless

b) **Odour**
pungent
c) Odour Threshold  No data available

d) pH  2.4 at 60.05 g/l

e) Melting point/freezing point  Melting point/range: 16.2 °C - lit.

f) Initial boiling point and boiling range  117 - 118 °C - lit.

g) Flash point  40.0 °C - closed cup

h) Evaporation rate  No data available

i) Flammability (solid, gas)  No data available

j) Upper/lower flammability or explosive limits  Upper explosion limit: 19.9 %(V)

k) Vapour pressure  55.0 mmHg at 50.0 °C

l) Vapour density  No data available

m) Relative density  1.049 g/cm3 at 25 °C

n) Water solubility  completely miscible

o) Partition coefficient: n-octanol/water  log Pow: -0.17

p) Auto-ignition temperature  485.0 °C

q) Decomposition temperature  No data available

r) Viscosity  No data available

s) Explosive properties  No data available

t) Oxidizing properties  No data available

9.2 Other safety information

Surface tension  28.8 mN/m at 10.0 °C

SECTION 10: Stability and reactivity

10.1 Reactivity  No data available

10.2 Chemical stability  Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions  No data available

10.4 Conditions to avoid  Heat, flames and sparks.

10.5 Incompatible materials  Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid

10.6 Hazardous decomposition products  Hazardous decomposition products formed under fire conditions. - Carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - 3,310 mg/kg (Acetic acid)
LC50 Inhalation - Mouse - 1 h - 5620 ppm (Acetic acid)
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Conjunctive irritation.
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other. Blood: Other changes.
LC50 Inhalation - Rat - 4 h - 11.4 mg/l (Acetic acid)
LD50 Dermal - Rabbit - 1,112 mg/kg (Acetic acid)

Skin corrosion/irritation
Skin - Rabbit (Acetic acid)
Result: Causes severe burns.

Serious eye damage/eye irritation
Eyes - Rabbit (Acetic acid)
Result: Corrosive to eyes

Respiratory or skin sensitisation
No data available (Acetic acid)

Germ cell mutagenicity
No data available (Acetic acid)

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available (Acetic acid)

Specific target organ toxicity - single exposure
No data available (Acetic acid)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Acetic acid)

Additional Information
RTECS: AF1225000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting. Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Acetic acid)

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1,000 mg/l - 96 h (Acetic acid)
(OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - > 300.82 mg/l - 48 h (Acetic acid)
(OECD Test Guideline 202)
12.2 **Persistence and degradability**

Biodegradability - aerobic
- Exposure time 30 d (Acetic acid)
- Result: 99 % - Readily biodegradable
- Remarks: Expected to be biodegradable

Biochemical Oxygen Demand (BOD)
- 880 mg/g (Acetic acid)

12.3 **Bioaccumulative potential**

No data available

12.4 **Mobility in soil**

No data available (Acetic acid)

12.5 **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 **Other adverse effects**

Additional ecological information
- No data available

SECTION 13: Disposal considerations

13.1 **Waste treatment methods**

**Product**
Burn in a chemical incinerator equipped with an afterburner and scrubber if highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**
Dispose of as unused product.

SECTION 14: Transport information

14.1 **UN number**

- ADR/RID: 2789
- IMDG: 2789
- IATA: 2789

14.2 **UN proper shipping name**

- ADR/RID: ACETIC ACID, GLACIAL
- IMDG: ACETIC ACID, GLACIAL
- IATA: Acetic acid, glacial

14.3 **Transport hazard class(es)**

- ADR/RID: 8 (3)
- IMDG: 8 (3)
- IATA: 8 (3)

14.4 **Packaging group**

- ADR/RID: II
- IMDG: II
- IATA: II

14.5 **Environmental hazards**

- ADR/RID: no
- IMDG Marine pollutant: no
- IATA: no

14.6 **Special precautions for user**

No data available

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 **Chemical safety assessment**

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

**Further information**
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.