

Acetic Acid

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Acetic Acid

Synonyms/Generic Names: Acetic Acid, Acido acetic, Ethanoic acid, Ethylic acid, Glacial acetic acid, Methanecarboxylic acid, Vinegar acid.

SDS Number: 4.00

Product Use: For Educational Use Only

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Contact: Ward's Science
5100 West Henrietta Rd.
PO Box 92912-9012
Rochester, NY 14692
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

In Case of Emergency Call: CHEMTREC – 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Combustible liquid, Target organ effect, Harmful by skin absorption, Corrosive

Target Organs: Teeth, Kidneys

Signal Words: Danger

Pictograms:



GHS Classification:

| | |
|----------------------------|-------------|
| Eye Irritation | Category 1 |
| Skin Irritation | Category 1 |
| Respiratory Sensitizer | Category 1A |
| Flammable liquid | Category 3 |
| Acute toxicity, Oral | Category 5 |
| Acute toxicity, Dermal | Category 4 |
| Acute toxicity, Inhalation | Category 4 |
| Acute aquatic toxicity | Category 3 |

GHS Label Elements, including precautionary statements:

Hazard Statements:

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|------|--|
| H226 | Flammable Liquid and Vapor |
| H303 | May be harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H332 | Harmful if inhaled. |
| H402 | Harmful to aquatic life. |

Precautionary Statements:

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|----------------|---|
| P261 | Avoid breathing dust/fume/gas/vapors/mist/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |

Potential Health Effects

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|-------------------|---|
| Eyes | Causes eye burns. |
| Inhalation | May be harmful if inhaled. Material is extremely destructive to the mucous membranes and upper respiratory tract. |
| Skin | Harmful if absorbed through skin. Causes skin burns. |
| Ingestion | May be harmful if swallowed. |

NFPA Ratings

| | |
|------------------------|---------------|
| Health | 3 |
| Flammability | 2 |
| Reactivity | 0 |
| Specific hazard | Not Available |

HMIS Ratings

| | |
|-------------------|---|
| Health | 3 |
| Fire | 2 |
| Reactivity | 0 |
| Personal | H |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | Weight % | CAS # | EINECS# / ELINCS# | Formula | Molecular Weight |
|-------------|----------|---------|-------------------|----------------------|------------------|
| Acetic Acid | >99 | 64-19-7 | 200-580-7 | CH ₃ COOH | 60.05 g/mol |

4. FIRST-AID MEASURES

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| Eyes | In case of eye contact, rinse with plenty of water and seek medical attention immediately. |
| Inhalation | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| Skin | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately. |
| Ingestion | Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately. |

5. FIREFIGHTING MEASURES

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| Suitable (and unsuitable) extinguishing media | Flammable Liquid. Water spray, dry chemical, carbon dioxide, alcohol foam. Use appropriate media for adjacent fire. |
| Special protective equipment and precautions for firefighters | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas. |
| Specific hazards arising from the chemical | Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section). |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions, protective equipment and emergency procedures | Evacuate unprotected personnel from area. Eliminate all ignition sources. See section 8 for recommendations on the use of personal protective equipment. |
| Environmental precautions | Do not let product enter drains. Any release to the environment may be subject to federal/national or local reporting requirements. |
| Methods and materials for containment and cleaning up | Neutralize spill with sodium bicarbonate or lime. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors. |

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols. Take measures to prevent the buildup of electrostatic charge. No smoking.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Avoid all possible sources of ignition (spark or flame). Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Controls: Ventilation and appropriate grounding of containers.

| Component | Exposure Limits | Basis | Entity |
|-------------|--------------------------------|-------|--------|
| Acetic Acid | 10 ppm 25 mg/m ³ | PEL | OSHA |
| | 10 ppm 25 mg/m ³ | TLV | ACGIH |
| | 15 ppm 37 mg/m ³ | STEL | ACGIH |
| | 10 ppm 25 mg/m ³ | REL | NIOSH |
| | 15 ppm 37 mg/m ³ | STEL | NIOSH |

TWA: Time Weighted Average over 8 hours of work.
 TLV: Threshold Limit Value over 8 hours of work.
 REL: Recommended Exposure Limit
 PEL: Permissible Exposure Limit
 STEL: Short Term Exposure Limit during x minutes.
 IDLH: Immediately Dangerous to Life or Health
 WEEL: Workplace Environmental Exposure Levels

Personal Protection

| | |
|-------------------|--|
| Eyes | Wear chemical safety glasses with a face shield for splash protection. |
| Inhalation | If necessary use an approved respirator with acid vapor cartridges. Provide local exhaust, preferably mechanical. |
| Skin | Wear neoprene or rubber gloves, flame retardant antistatic protective clothing. |
| Other | Not Available |

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|-----------------------------|
| Appearance (physical state, color, etc.) | Colorless liquid |
| Odor | Pungent, vinegar odor |
| Odor threshold | 0.48 ppm |
| pH | Acidic |
| Melting point/freezing point | 17°C (63°F) |
| Initial boiling point and boiling range | 118°C (244°F) |
| Flash point | 39°C (103°F) |
| Evaporation rate | 0.97 |
| Flammability (solid, gas) | Flammable Liquid. |
| Upper/lower flammability or explosive limit | LEL: 5.4 UEL: 16.0 |
| Vapor pressure | (@ 20°C) 11.4 mmHg |
| Vapor density | (air=1) 2.1 |
| Relative density | Not Available |
| Solubility (ies) | Completely soluble in water |
| Partition coefficient: n-octanol/water | Not Available |
| Auto-ignition temperature | 463°C (865.4°F) |
| Decomposition temperature | Not Available |

10. STABILITY AND REACTIVITY

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|---|--|
| Chemical Stability | Stable |
| Possibility of Hazardous Reactions | Will not occur. |
| Conditions to Avoid | Strong oxidizing reagents, metals, strong bases, amines |
| Incompatible Materials | Material reacts violently with strong oxidizing reagents; material reacts with metals, strong bases, and amines. |
| Hazardous Decomposition Products | Carbon oxides. |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

| | |
|--------------------|---|
| Skin | LD50 Dermal – rabbit – 1112 mg/kg |
| Eyes | Not Available |
| Respiratory | LC50 Inhalation – mouse – 1 hour – 5620 ppm |
| Ingestion | LD50 Oral – rat – 3310 mg/kg |

Carcinogenicity

| | |
|--------------|--|
| IARC | No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |
| NTP | No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

Signs & Symptoms of Exposure

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|--------------------|---|
| Skin | Erythema, blisters, tissue destruction and slow healing, skin blackening, hyperkeratosis, and fissures. |
| Eyes | Corneal erosion, opacification, iritis, conjunctivitis, and possible blindness. |
| Respiratory | 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 | Hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. |

| | |
|---------------------------------------|---------------|
| Chronic Toxicity | Not Available |
| Teratogenicity | Not Available |
| Mutagenicity | Not Available |
| Embryotoxicity | Not Available |
| Specific Target Organ Toxicity | Not Available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

| | |
|-----------------------------|---|
| Aquatic Vertebrate | LC50: 423 mg/l 24 hours [Fish (Goldfish)] 88 ppm 96 hours [Fish (fathead minnow)] 75 ppm 96 hours [Fish (bluegill sunfish)] |
| Aquatic Invertebrate | LC50: 100 ppm [Daphnia] |
| Terrestrial | Not Available |

| | |
|--------------------------------------|---|
| Persistence and Degradability | Expected to be biodegradable, long term degradation products may arise. |
| Bioaccumulative Potential | Not Available |
| Mobility in Soil | Not Available |
| PBT and vPvB Assessment | Not Available |
| Other Adverse Effects | Biochemical Oxygen Demand: 880 mg/g |

13. DISPOSAL CONSIDERATIONS

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|---------------------------|---|
| Waste Residues | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues. |
| Product Containers | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container. |

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

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|------------------|---|
| US DOT | UN2789, Acetic acid, glacial, 8, (3), pg II |
| TDG | UN2789, ACETIC ACID, GLACIAL, 8, (3), pg II |
| IMDG | UN2789, ACETIC ACID, GLACIAL, 8, (3), pg II |
| Marine Pollutant | No |
| IATA/ICAO | UN2789, Acetic Acid, glacial, 8, (3), pg II |

15. REGULATORY INFORMATION

| | |
|---------------------------|---|
| TSCA Inventory Status | All ingredients are listed on the TSCA inventory. |
| DSCL (EEC) | All ingredients are listed on the DSCL inventory. |
| California Proposition 65 | Not Listed |
| SARA 302 | Not Listed |
| SARA 304 | Not Listed |
| SARA 311 | Acetic Acid |
| SARA 312 | Acetic Acid |
| SARA 313 | Not Listed |
| WHMIS Canada | Class B-3: Combustible liquid with a flash point between 37.8°C and 93.3°C Class E: Corrosive liquid |

16. OTHER INFORMATION

| Revision | Date |
|------------|------------|
| Revision 1 | 01/28/2013 |
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