

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:**

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:

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

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

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

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

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

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

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

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

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

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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