

## Acetic Acid Cleanroom Grade

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Acetic Acid Cleanroom Grade

**Synonyms/Generic Names:** Ethanoic acid; Methanecarboxylic acid

**Product Number:** 0081

**Product Use:** Industrial, Manufacturing or Laboratory use

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

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

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

### 2. HAZARDS IDENTIFICATION

**Hazard Not Otherwise Classified (HNOC):** Lachrymator

**Signal Word:** Danger

**Pictograms:**



**GHS Classification:**

Flammable liquids	Category 3
Acute toxicity, Oral	Category 5
Acute toxicity, Inhalation	Category 3
Acute toxicity, Dermal	Category 4
Skin corrosion	Category 1A
Serious eye damage	Category 1
Skin sensitization	Category 1
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.
H331	Toxic if inhaled.
H402	Harmful to aquatic life.

**Precautionary Statements:**

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.
P333+P313	If skin irritation occurs: Get medical advice/attention.
P370+P378	In case of fire: Use appropriate media to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local regulations.

**Potential Health Effects**

<b>Eyes</b>	Causes eye burns.
<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	Causes skin burns.
<b>Ingestion</b>	May be harmful if swallowed.

**NFPA Ratings**

<b>Health</b>	3
<b>Flammability</b>	2
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	3
<b>Fire</b>	2
<b>Reactivity</b>	0

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Acetic Acid	>99	64-19-7	200-580-7	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	60.05 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
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<b>Inhalation</b>	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.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable (and unsuitable) extinguishing media</b>	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section).

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

## 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. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. 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, Glacial	10 ppm 25 mg/m <sup>3</sup>	PEL	OSHA

	10 ppm 25 mg/m <sup>3</sup>	TLV	ACGIH
	15 ppm 37 mg/m <sup>3</sup>	STEL	ACGIH
	10 ppm 25 mg/m <sup>3</sup>	REL	NIOSH
	15 ppm 37 mg/m <sup>3</sup>	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

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles, and face shield.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves and full body suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid.
Odor	Pungent, vinegar-like, sour.
Odor threshold	0.48 ppm (Acetic Acid, Glacial)
pH	2.4 at 60.05 g/L (Acetic Acid, Glacial)
Melting point/freezing point	16.6°C (61.9°F) (Acetic Acid, Glacial)
Initial boiling point and boiling range	118.1°C (244.6°F) (Acetic Acid, Glacial)
Flash point	Closed Cup: 39°C (102.2°F) (Acetic Acid, Glacial) Open Cup: 43°C (109.4°F) (Acetic Acid, Glacial)
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	Lower: 4% (Acetic Acid, Glacial) Upper: 19.9% (Acetic Acid, Glacial)
Vapor pressure	1.5 kPa (@ 20°C) (Acetic Acid, Glacial)
Vapor density	2.07 (Air = 1) (Acetic Acid, Glacial)
Density	1.049 (Water = 1) (Acetic Acid, Glacial)
Solubility (ies)	Easily soluble in water. Soluble in diethyl ether, acetone. Miscible with glycerol, alcohol, benzene, carbon tetrachloride. Practically insoluble in carbon disulfide.
Partition coefficient: n-octanol/water	log Pow: -0.17 (Acetic Acid, Glacial)
Auto-ignition temperature	463°C (865.4°F) (Acetic Acid, Glacial)
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Heat, flames, sparks.
<b>Incompatible Materials</b>	Oxidizing agents, soluble carbonates and phosphates, hydroxides, metals, peroxides, permanganates, e.g. potassium permanganate, amines, alcohols.
<b>Hazardous Decomposition Products</b>	Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Acetic Acid, Glacial

<b>Skin</b>	LD50 Dermal - rabbit - 1,112 mg/kg
<b>Eyes</b>	Eyes - rabbit - Corrosive to eyes.
<b>Respiratory</b>	LC50 Inhalation - mouse - 1 h – 5620 ppm
<b>Ingestion</b>	LD50 Oral - rat - 3,310 mg/kg

### Carcinogenicity

<b>IARC</b>	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.
<b>ACGIH</b>	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.
<b>NTP</b>	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.
<b>OSHA</b>	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

<b>Skin</b>	Reddening, itching, inflammation. May cause blistering, tissue damage and burns.
<b>Eyes</b>	Irritation, lacrimation, redness, pain. May cause burns, blurred vision, conjunctivitis, conjunctival and corneal destruction and permanent injury.
<b>Respiratory</b>	Rhinitis, sneezing, coughing, oppressive feeling in the chest or chest pain, dyspnea, wheezing, tachypnea, cyanosis, salivation, nausea, giddiness, muscular weakness. May cause chemical pneumonitis, bronchitis, and pulmonary edema.
<b>Ingestion</b>	Burning and pain of the mouth, throat, and abdomen, coughing, ulceration, bleeding, nausea, abdominal spasms, vomiting, hematemesis, diarrhea. May also affect liver, behavior, and urinary system.

<b>Chronic Toxicity</b>	Chronic exposure via ingestion may cause blackening or erosion of the teeth and jaw necrosis, pharyngitis, and gastritis. It may also behavior (similar to acute ingestion), and metabolism (weight loss). Chronic exposure via inhalation may cause asthma and/or bronchitis with cough, phlegm, and/or shortness of breath. Repeated or prolonged skin contact may cause thickening, blackening, and cracking of the skin.
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
<b>Embryotoxicity</b>	Not Available
<b>Target Organ(s)</b>	Teeth, Kidneys
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	May cause sensitization by skin contact.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Acetic Acid, Glacial

<b>Aquatic Vertebrate</b>	LC50 - Pimephales promelas (fathead minnow) - 79 - 88 mg/l - 96 h LC50 - Lepomis macrochirus - 75 mg/l - 96 h
<b>Aquatic Invertebrate</b>	EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h
<b>Terrestrial</b>	Not Available
<b>Persistence and Degradability</b>	Aerobic Result: 99 % - Readily biodegradable.
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Biochemical Oxygen Demand (BOD): 880 mg/g Harmful to aquatic life.

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Product or Residues</b>	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 or residue.
<b>Product Containers</b>	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 Active inventory.
DSL / NDSL	Acetic Acid is listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: Acetic Acid
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Listed: Acetic Acid
Pennsylvania: Hazardous Substance List	Listed: Acetic Acid
New Jersey: Right to Know Hazardous Substance List	Listed: Acetic Acid
SARA 302	Not Listed

SARA 304	Not Listed
SARA 311	Fire Hazard, Acute Health Hazard.
SARA 312	Fire Hazard, Acute Health Hazard.
SARA 313	Not Listed
WHMIS Canada	Class B3: Flammable and combustible material – Combustible liquid. Class E: Corrosive material.

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## 16. OTHER INFORMATION

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Revision	Date
Original	07/03/2018
Revision 1	03/07/2022

Disclaimer: The information provided in this Safety Data Sheet (“SDS”) is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.