

## Acetic Acid, Glacial, ACS

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product Name:** Acetic Acid, Glacial, ACS

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

**Product Number:** 0059

**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)

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### 2. HAZARDS IDENTIFICATION

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**OSHA Hazards:** Flammable liquid, Target organ effect, Harmful by skin absorption, Skin sensitizer, Corrosive

**Target Organs:** Teeth, Kidneys

**Other hazards which to do not result in classification:** 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             |
| <b>Personal</b>   | Not Available |

**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      |

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## 4. FIRST-AID MEASURES

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|                   |  |
|-------------------|--|
| <b>Eyes</b>       | In case of eye contact, rinse with plenty of water for at least 15 minutes and seek medical attention immediately.   |
| <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.      |

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## 5. FIRE-FIGHTING MEASURES

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|--|--|
| <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).  |

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## 6. ACCIDENTAL RELEASE MEASURES

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|--|---|
| <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. |

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## 7. HANDLING AND STORAGE

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### 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 | 10 ppm<br>25 mg/m <sup>3</sup> | PEL   | OSHA   |
|             | 10 ppm<br>25 mg/m <sup>3</sup> | TLV   | ACGIH  |
|             | 15 ppm<br>37 mg/m <sup>3</sup> | STEL  | ACGIH  |
|             | 10 ppm<br>25 mg/m <sup>3</sup> | REL   | NIOSH  |
|             | 15 ppm<br>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  |
| pH  | 2.4 at 60.05 g/L  |
| Melting point/freezing point                | 16.6°C (61.9°F)   |
| Initial boiling point and boiling range     | 118.1°C (244.6°F)   |
| Flash point                                 | Closed Cup: 39°C (102.2°F)<br>Open Cup: 43°C (109.4°F)  |
| Evaporation rate                            | Not Available   |
| Flammability (solid, gas)                   | Flammable   |
| Upper/lower flammability or explosive limit | Lower: 4%<br>Upper: 19.9%   |
| Vapor pressure                              | 1.5 kPa (@ 20°C)  |
| Vapor density                               | 2.07 (Air = 1)  |
| Density                                     | 1.049 (Water = 1)   |
| 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   |
| Auto-ignition temperature              | 463°C (865.4°F)  |
| 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

|                    |  |
|--------------------|--|
| <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>Specific Target Organ Toxicity</b> | Not Available                            |
| <b>Reproductive Toxicity</b>          | Not Available                            |
| <b>Respiratory/Skin Sensitization</b> | May cause sensitization by skin contact. |

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

|                             |  |
|-----------------------------|--|
| <b>Aquatic Vertebrate</b>   | LC50 - Pimephales promelas (fathead minnow) - 79 - 88 mg/l - 96 h<br>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<br>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<br>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 inventory.       |
| DSCL (EEC)                | All ingredients are listed on the DSCL inventory.       |
| California Proposition 65 | Not Listed  |
| SARA 302                  | No SARA Hazard  |
| SARA 304                  | No SARA Hazard  |
| SARA 311                  | Acute Health Hazard, Chronic Health Hazard, Fire Hazard |
| SARA 312                  | Acute Health Hazard, Chronic Health Hazard, Fire Hazard |

|              |  |
|--------------|--|
| SARA 313     | No SARA Hazard   |
| WHMIS Canada | Class B-3: Flammable and combustible liquid- Combustible liquid<br>Class E: Corrosive material |

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## 16. OTHER INFORMATION

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| Revision   | Date       |
|------------|------------|
| Revision 1 | 12/28/2012 |
| Revision 2 | 02/15/2013 |
| Revision 3 | 04/22/2014 |
| Revision 4 | 01/19/2015 |
| Revision 5 | 09/20/2017 |

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