COLUMBUS CHEMICAL INDUSTRIES

Safety Data Sheet

Acetic Acid, Glacial, ACS

1. PRODUCT AND COMPANY IDENTIFICATION

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

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

Eyes	Causes eye burns.
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Acetic Acid	>99	64-19-7	200-580-7	$C_2H_4O_2$	60.05 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water for at least 15 minutes 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. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	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.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
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	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	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	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
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles, and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	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.
Other	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) Open Cup: 43°C (109.4°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	Lower: 4% 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

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal - rabbit - 1,112 mg/kg
Eyes	Eyes - rabbit - Corrosive to eyes.
Respiratory	LC50 Inhalation - mouse - 1 h – 5620 ppm
Ingestion	LD50 Oral - rat - 3,310 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	Reddening, itching, inflammation. May cause blistering, tissue damage and burns.
Eyes	Irritation, lacrimation, redness, pain. May cause burns, blurred vision, conjunctivitis, conjunctival and corneal destruction and permanent injury.
Respiratory	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.
Ingestion	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.

Chronic Toxicity	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.
Teratogenicity	Not Available
Mutagenicity	Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
Embryotoxicity	Not Available
Target Organ(s)	Teeth, Kidneys
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	May cause sensitization by skin contact.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC50 - Pimephales promelas (fathead minnow) - 79 - 88 mg/l - 96 h LC50 - Lepomis macrochirus - 75 mg/l - 96 h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Aerobic Result: 99 % - Readily biodegradable.
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Biochemical Oxygen Demand (BOD): 880 mg/g Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Product or 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 product or residue.
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 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.

16. OTHER INFORMATION

Revision	Date
Original	12/28/2012
Revision 1	02/15/2013
Revision 2	04/22/2014
Revision 3	01/19/2015
Revision 4	09/20/2017
Revision 5	03/07/2022