

CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

SAFETY DATA SHEET ACETIC ACID, GLACIAL

1. Identification

Product identifier: ACETIC ACID, GLACIAL
Product code: A300
Synonym(s): GLACIAL ACETIC ACID * ETHANOIC ACID
Product use: Process chemical, Laboratory Reagent and scientific research and development.

Recommended restrictions: None known.

Company Identification: Corco Chemical Corporation
299 Cedar Lane
Fairless Hills, PA 19030
Telephone Phone: 215-295-5006
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24 Hour Emergency Telephone Number: CHEMTREC (U.S.) 1-800-424-9300
CHEMTREC (Outside U.S.) 1-703-527-3887

2. HAZARD(S) IDENTIFICATION

<u>Physical Hazards</u>	<u>Category</u>
Flammable liquids	Category 3
Corrosive to metals	Category 1
<u>Health hazards</u>	<u>Category</u>
Acute toxicity, dermal	Category 4
Acute toxicity, inhalation	Category 4
<u>Health hazards</u>	<u>Category</u>
Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1

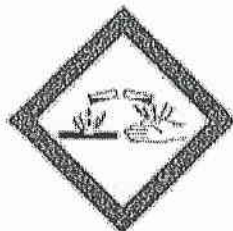
Sensitization, respiratory
Specific target organ toxicity, single exposure

Category 1
Category 1 (blood,
respiratory system)
Not classified.

OSHA hazard(s)

Label elements

Hazard symbol:



Single Word: Danger

Hazard statement:

Flammable liquid and vapor. May be corrosive to metals. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs (blood, respiratory system). Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement:

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Keep only in original container. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing/eye and face protection.

Response:

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of fire: Use appropriate media for extinction. Absorb spillage to prevent material damage.

Storage

Store in a well-ventilated place. Keep cool. Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

3. Composition/information on ingredients

Hazardous components

<u>Chemical name</u>	<u>* Common name and synonyms</u>	<u>CAS number</u>	<u>%</u>
ACETIC ACID	GLACIAL ACETIC ACID ETHANOIC ACID	64-19-7	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

In all cases, immediately call a POISON CENTER or doctor / physician.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Get medical attention immediately.

Ingestion: DO NOT INDUCE VOMITING! Give large quantities of water or milk, if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Call a physician.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire-fighting measure

Fire: Flash point: 39C (102F) CC / Auto ignition temperature: 516C (961F) / Flammable limits in air % by volume: lel: 4.0; uel: 19.9 / Flammable Liquid and Vapor!

Explosion: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Contact with strong oxidizers may cause fire. Reacts with most metals to produce Hydrogen gas, which can form an explosive mixture with air.

Fire Extinguishing Media: Water spray, dry chemical, Alcohol foam, or Carbon Dioxide. Water spray may be used to keep fire exposed containers cool.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water diluted acid can react with metals to form Hydrogen gas.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up:

Use water spray to dilute spill to a nonflammable mixture. Contain and recover liquid when possible. Do not let product enter drains. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth,) and place in a chemical waste container. Use non-sparking tools and equipment. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for The US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Store above 17C (63F.) Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Observe all warnings and precautions listed for the product.

8. Exposure Control / Personal Protection

Airborne Exposure Limits: OSHA Permissible Exposure Limit (PEL): 10 ppm (TWA) ACGIH Threshold Limit Value (TLV): 10 ppm (TWA); 15 ppm (STEL)

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, a Manual of Recommended Practices, most recent edition, for details.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection: Use a chemical cartridge respirator for concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations: When using, do not eat, drink or smoke. Do not get in eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance Clear.	Liquid. Freezes readily when cool (<62 F).
Physical state	Liquid.
Form	Liquid.
Color	Colorless.

Odor	Strong vinegar-like.
Odor threshold	Not available.
pH 2.4 Aqueous solution	1.0 molar= pH 2.4; 0.1 molar= pH 2.9; 0.01 molar= pH
3.4	
Melting point/freezing point	61.9 °F (16.6 °C)
Initial boiling point and	
boiling range	244.22 °F (117.9 °C)
Flash point	103.00 °F (39.44 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower	
(%)	> 4 %
Flammability limit -	
upper (%)	< 16 %
Explosive limit - lower	
(%)	Not available.
Explosive limit - upper	
(%)	Not available.
Vapor pressure	2.093 kPa at 25 °C
Vapor density	2.1
Relative density	1.01
Solubility(ies)	Miscible
Partition coefficient	
(n-octanol/water)	-0.2
Auto-ignition temperature	798.8 °F (426 °C)
Decomposition temperature	Not available.
Viscosity	1.22 at 20C, centipoises

10. Stability and reactivity

Reactivity	Not available.
Chemical stability Risk of ignition	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point
Incompatible materials	Strong oxidizing agents
Hazardous decomposition	Irritants
Products	

11. Toxicological Information

Emergency Overview: POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. INHALATION MAY CAUSE LUNG

AND TOOTH DAMAGE. FLAMMABLE LIQUID AND VAPOR.

Potential Health Effects:

Inhalation: Inhalation of concentrated vapors may cause serious damage to the lining of the nose, throat, and lungs. Breathing difficulties may occur. Neither odor nor degree of irritation are adequate to indicate vapor concentration.

Ingestion: Swallowing can cause severe injury leading to death. Symptoms include sore throat, vomiting, and diarrhea. Ingestion of as little as 1.0 ml has resulted in perforation of the esophagus.

Skin Contact: Contact with concentrated solution may cause serious damage to the skin. Effects may include redness, pain, skin burns. High vapor concentrations may cause skin sensitization.

Eye Contact: Eye contact with concentrated solutions may cause severe eye damage followed by loss of sight. Exposure to vapor may cause intense watering and irritation to eyes.

Chronic Exposure: Repeated or prolonged exposures may cause darkening of the skin, erosion of exposed front teeth, and chronic inflammation of the nose, throat, and bronchial tubes.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems, or impaired respiratory function may be more susceptible to the effects of the substance.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:)
No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity:

Ingredient	Known	Anticipated IARC	Category
Acetic Acid (64-19-7)	No	No	None

12. Ecological information

Ecotoxicity: This material may be toxic to aquatic life.

EC50 (wheat fumigation) = 23.3 mg/m³ / 2 hr., effect: leaf injury

LC50 (shrimp) = 100 - 300 mg/l / 48 hr.

LC50 (fathead minnow) = 88 mg/l / 96 hr.

Persistence and Degradability: If released to water, Acetic Acid will biodegrade readily. If released to soil, it will biodegrade readily.

Bioaccumulative Potential: Acetic Acid shows no potential for biological accumulation or food chain contamination. BCF estimated < 1.

Mobility in Soil: No data available.

Other adverse effects: US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

13. Disposal considerations

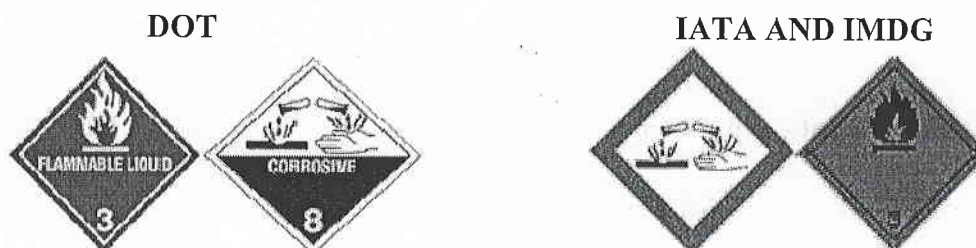
Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport information

UN Number: UN2789

UN Proper Shipping Name: ACETIC ACID, GLACIAL (WITH MORE THAN 80% ACID, BY MASS)

Packing Group: II



Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)

Transport Hazard Class(es): 8, 3

Maritime Transport IMDG/GGVSea

Transport Hazard Class(es): 8, 3

Marine Pollutant: No

Air Transport ICAO-TI and IATA-DGR

Transport Hazard Class(es): 8, 3

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Special Precautions for User: No additional information.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

ACETIC ACID (CAS 64-19-7) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes

Fire Hazard - Yes

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance - No

SARA 311/312 Hazardous chemical - No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)

Hazardous substance

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA)

Total food additive

Direct food additive

GRAS food additive

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

State Right to Know Act – Rhode Island (RTK), Massachusetts (substance list), Pennsylvania (Hazardous Substances), and New Jersey (Worker and Community Right-to-know Act)

International Inventories

Country(s) or Region	Inventory Name	on Inventory (Yes / No)
	Australian - Australian Inventory of Chemical Substances (AICS)	Yes
	Canada – Domestic Substances List (DSL)	Yes
	Canada - Non-Domestic Substances List (NDSL)	No
	China – Inventory of Existing Chemical Substances In China (IECSC)	Yes
	Europe - European Inventory of Existing Commercial Chemicals Substances (IECSC)	Yes
	Europe – European List of Notified Chemical Substances (ELINCS)	No
	Japan – Inventory of Existing and New Chemical Substances (ENCS)	Yes
	Korea – Existing Chemicals List (ECL)	Yes
	New Zealand – New Zealand Inventory	No
	Philippines – Philippine Inventory of Chemicals and Substances (PICCS)	Yes
	USA and Puerto Rico – Toxic Substance Control Act (TSCA)	Yes

16. Other information

The information in the SDS is based on the data available at the time. While believed to be accurate, Corco does not claim it to be all inclusive. The information given is designed only as a guidance for safe handling, use, processing,

storage, transportation, disposal and release and is not to be considered a warranty or quality specification. It is not intended to provide product performance or applicability information, and no express or implied warranty of any kind is made with respect to the product, the underlying product data, or the information contained herein. We will not provide advice on such matters, or be responsible for any injury or damage resulting from the use of the product described herein.

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