PURITAN PRODUCTS

Effective Date: 04/08/15
Replaces Revision: 01/01/13

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: ACETIC ACID 0.1-10%
Synonyms: Methane Carboxylic Acid, Acetic Acid Solution
Chemical Formula: CH3COOH (in water)
Recommended Use of the Chemical and Restrictions On Use: Laboratory Reagent
Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225
Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

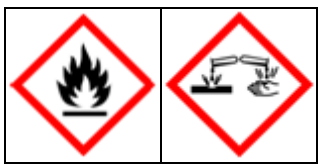
Classification of the Substance or Mixture:
Flammable liquids (Category 3)
Acute toxicity, Oral (Category 5)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 4)
Skin corrosion (Category 1A)
Serious eye damage (Category 1)
Skin sensitization (Category 1)
Acute aquatic toxicity (Category 3)

Risk Phrases:
Symbol: C
R10: Flammable.
R35: Causes severe burns.

Label Elements:

Trade Name: ACETIC ACID 0.1-10%

Signal Word: Danger



Hazard Statements:
H226: Flammable liquid and vapor.
H314: Causes severe skin burns and eye damage.

Precautionary Statements:
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 – continue rinsing.
P310: Immediately call a POISON CENTER or doctor / physician.

3. Composition / Information on Ingredients

CAS Number: 64-19-7
EC Number: 200-580-7
Index Number: 607-002-00-6
Molecular Weight: 60.05 g/mol

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Acetic Acid	64-19-7	200-580-7	0.1 - 10%	Yes	Substance
Water	7732-18-5	231-791-2	90 – 99.9%	No	Mixture

4. First-aid Measures

Hazard evaluation based upon pure (Glacial) Acetic Acid. Hazards of dilute solutions may not be as severe as those of Glacial Acetic Acid.

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 Measures

Listed fire data is for Glacial Acetic Acid.

Fire: Flash point: 39C (102F) CC / Autoignition 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 Controls / 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.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a full face piece respirator with organic vapor cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full face piece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in Oxygen-deficient atmospheres.

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

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.

9. Physical and Chemical Properties

Physical data below refers to Acetic Acid Glacial.

Appearance: Clear, colorless liquid
Odor: Strong, vinegar-like
Odor Threshold: Not determined
pH: 2.4 (1.0M solution)
% Volatiles by volume @ 21C (70F): 100
Melting Point: 16.6C (63F)
Boiling Point / Boiling Range: 118C (244F)
Flash Point: 39C (102F)

Evaporation Rate (BuAC=1): 0.97
Flammability: Concentrated Acetic Acid can be ignited with difficulty.
Upper / lower Flammability or Explosive Limits: Flammable risk if the ambient temperature exceeds 39 °C (102 °F,) and can form explosive mixtures with air above this temperature (explosive limits: 5.4–16%.)
Vapor Pressure (mm Hg): 11 @ 20C (68F)
Vapor Density (Air=1): 2.1
Relative Density: 1.01
Solubility: Infinitely soluble
Partition Coefficient: n-octanol / water: No data available
Auto-ignition Temperature: 465C
Decomposition Temperature: No data available
Viscosity: 1.22 at 20C, centipoise

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flame, ignition sources, freezing, incompatibles.

Incompatible Materials: Acetic Acid is incompatible with Chromic Acid, Nitric Acid, Ethylene Glycol, Perchloric Acid, Phosphorous Trichloride, oxidizers, Sodium Peroxide, strong caustics, most metals (except Aluminum), carbonates, hydroxides, oxides, and phosphates.

Hazardous Decomposition Products: Carbon Dioxide and Carbon Monoxide may form when heated to decomposition. May also release toxic and irritating vapors.

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:

Hazard evaluation based upon pure (Glacial) Acetic Acid. Hazards of dilute solutions may not be as severe as those of Glacial Acetic Acid.

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: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Acetic Acid (64-19-7)	No	No	None
Water (7732-18-5)	No	No	None

Acute Toxicity:
For Acetic Acid:
Oral rat LD50: 3310 mg/kg.
Dermal rabbit LD50: 1.06 g/kg.
Inhalation mouse LC50: 5620 ppm / 1 hr.
Investigated as a mutagen, reproductive effecter.

12. Ecological Information

Ecological information below refers to Acetic Acid Glacial.

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: UN3265
UN Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S, (ACETIC ACID)
Packing Group: III

DOT **IMDG** **IATA**

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Transport Hazard Class(es): 8

Maritime Transport IMDG/GGVSea
Transport Hazard Class(es): 8
Marine Pollutant: No

Air Transport ICAO-TI and IATA-DGR
Transport Hazard Class(es): 8

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

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Acetic Acid (64-19-7)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Acetic Acid (64-19-7)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	List Chemical	Catg.
Acetic Acid (64-19-7)	No	No	No	No
Water (7732-18-5)	No	No	No	No

Federal, State & International Regulations - Part 2

	RCRA		TSCA
Ingredient	CERCLA	261.33	8(d)
Acetic Acid (64-19-7)	5000	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No		**TSCA 12(b):** No		**CDTA:** No
SARA 311/312:	**Acute:** Yes	**Chronic:** Yes	**Fire:** Yes	**Pressure**: No
Reactivity: Yes		Mixture / Liquid		

Australian Hazchem Code: 2R

Poison Schedule: S5

16. Other Information

Effective Date: 04/08/15 – Changed lower concentration from 1% to 0.1%
Replaces Revision: 01/01/13 – GHS Compliant, 08/18/08 – Initial Release

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