Safety Data Sheet

Acetic Acid

SECTION 1: Identification

1.1 GHS Product identifier

Product name	Acetic Acid

1.2 Other means of identification

N/A

1.3 Recommended use of the chemical and restrictions on use

For laboratory and manufacturing use only.

1.4 Supplier's details

Name	High Purity Products
Address	14546 N. Lombard St. Portland OR 97203 USA
Telephone	503-227-1616
Fax	503-221-6410
email	quality@highpp.com

1.5 Emergency phone number

CHEMTREC 1-800-424-9300

SECTION 2: Hazard identification

General hazard statement

"Consumer Products", as defined by the US Consumer Product Safety Act and which are used as intended (typical consumer duration and frequency), are exempt from the OSHA Hazard Communication Standard (29 CFR 1910.1200). This SDS is being provided as a courtesy to help assist in the safe handling and proper use of the product.

2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Flammable liquids, Cat. 3
- Corrosive to metals, Cat. 1
- Acute toxicity, dermal, Cat. 4
- Acute toxicity, inhalation, Cat. 4
- Skin corrosion/irritation, Cat. 1A
- Eye damage/irritation, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word **Danger**

Hazard statement(s)

H226	Flammable liquid and vapor
H290	May be corrosive to metals
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe vapors.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water for 15 minutes
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.

SECTION 3: Composition/information on ingredients

3.1 Mixture

Component(s)	CAS #	Percent (Weight)
Acetic Acid	64-19-7	99 – 100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice — Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

If inhaled — Move to fresh air. Call a physician or poison control center immediately. Apply artificial respiration if the victim is not breathing. If breathing is difficult, give oxygen.

Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

In case of skin contact — Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center

	immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes. Acute and delayed symptoms and effects: Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.
In case of eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately. Acute and delayed symptoms and effects: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision, or complete loss of vision.
If swallowed	Call a physician or poison control center immediately. Do not induce vomiting without advice from the poison control center. Never give liquid to an unconscious person. If vomiting occurs, keep your head low so that stomach content doesn't get into the lungs. Acute and delayed symptoms and effects: Harmful if swallowed. Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

4.2 Most important symptoms/effects, acute and delayed.
Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
CO2, dry chemical, dry sand, alcohol-resistant foam.

5.2 Specific hazards arising from the chemical.
Thermal decomposition can lead to the release of irritating gases and vapors. The product causes burns of eyes, skin and mucous
membranes.

5.3 Special protective actions for fire-fighters
Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Further information
Use water spray to cool unopened containers. Hazardous Combustion Products: Carbon monoxide (CO). Carbon dioxide (CO2). Thermal decomposition can lead to the release of irritating gases and vapors. Protective Equipment and Precautions for Firefighters:
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to the release of irritating gases and vapors.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in the immediate area). Evacuate area.

6.2 Environmental precautions

Do not contaminate water sources or sewers. Prevent further leakage or pillage if safe to do so. Avoid discharge into drains, water courses or onto
the ground.

6.3 Methods and materials for containment and cleaning up.

In case of leakage, eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical
waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Ground and bond containers and receiving equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink, or smoke when using the product. Use caution when adding this material to water. See Section 8 of the SDS for Personal Protective Equipment. Avoid contact with eyes. Avoid contact with skin.

7.2 Conditions for safe storage, including any incompatibilities.

Keep away from food, drink, and animal feeding stuff. Do not store it in metal containers. Ground container and transfer equipment to eliminate static.
electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids. Keep container tightly closed. Store in a cool, dry place. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Acetic acid (CAS: 64-19-7)

TWA: 10 ppm, (25 mg/m3) (NIOSH)

8.2 Appropriate engineering controls

Measures Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tight sealing safety goggles. Face protection shield.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body protection

Wear protective clothing. Clothing with full length sleeves and pants should be worn. The type of protective equipment must be selected according to the concentration and amount of dangerous substances at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls
Do not let product enter drains.

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid
Appearance	Colorless
Color	Clear
Odor	Vinegar-Like
Odor threshold	No data available.
pH	2.4
Melting point/freezing point	16 - 16.5 °C / 60.8 - 61.7 °F
Boiling point or initial boiling point and boiling range	117 - 118 °C / 242.6 °F
Flash point	39 °C / 102 °F
Evaporation rate	0.97 (Butyl Acetate = 1.0)
Flammability	Flammable
Lower and upper explosion limit/flammability limit	19.9 vol %
Vapor pressure	1.52 kPa @ 20 °C
Relative vapor density	2.10
Density and/or relative density	1.048
Solubility	Soluble in water
Partition coefficient n-octanol/water (log value)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	1.53 mPa.s @ 25 °C
Explosive properties	No data available.
Oxidizing properties	No data available.

Particle characteristics
60.05

SECTION 10: Stability and reactivity

10.1 Reactivity
No dangerous reaction known under conditions of normal use.

10.2 Chemical stability
Stable under normal storage conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4 Conditions to avoid.
Heat, flames, and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials
Strong oxidizing agents, Strong bases, Metals

10.6 Hazardous decomposition products
Carbon monoxide (CO), Carbon dioxide (CO2), Thermal decomposition can lead to release of irritating gases and vapors

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acetic acid:
Oral
Product: LD50 (Rat): 3,310 - 3,530 mg/kg

Dermal
LD50 (Rabbit) 1,060 mg/kg

Inhalation
LC50 (Rat, 4 h) 11.4 mg/l
LOAEL (Rat, 4 h): 450 ppm

Skin corrosion/irritation
Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Serious eye damage/irritation
Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision, or complete loss of vision.

Respiratory or skin sensitization
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity
No data available.

Carcinogenicity

Acetic acid
Result: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component 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 component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available.

STOT-single exposure
Respiratory tract irritation.

STOT-repeated exposure
Respiratory tract irritation.

Aspiration hazard
No data available.

Additional information
Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

SECTION 12: Ecological information

Toxicity
Acetic acid:
LC50 - Oncorhynchus mykiss (rainbow trout) - >1,000 mg/l - 96 h
Citation: (OECD Test Guideline 203)
EC50 - Daphnia magna (water flea) - >300.82 mg/l - 48 h
Citation: (OECD Test Guideline 202)

Persistence and degradability
Miscible with water Persistence is unlikely based on information available.

Bioaccumulative potential
potential for bioconcentration in aquatic organisms is low

Mobility in soil
Will likely be mobile in the environment due to its water solubility.

SECTION 13: Disposal considerations

Disposal methods
Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements. Chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
EPA Waste Code: **D001, D002**

SECTION 14: Transport information

DOT (US)
UN Number: UN2789
Class: 8 (3)
Packing Group: II
Proper Shipping Name: Acetic acid, Glacial (with more than 80% acid, by mass)
Reportable quantity (RQ): 5,000 lbs
Marine pollutant: No
Poison inhalation hazard: No

IMDG
UN Number: UN2789
Class: 8 (3)
Packing Group: II
Proper Shipping Name: Acetic acid, Glacial (with more than 80% acid, by mass)

IATA
UN Number: UN2789
Class: 8 (3)
Packing Group: II
Proper Shipping Name: Acetic acid, Glacial (with more than 80% acid, by mass)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

CERCLA RQ Hazardous Substances
Chemical: 5,000 lbs

Massachusetts Right To Know Components
Acetic acid
CAS number: 64-19-7

New Jersey Right To Know Components
Acetic acid
CAS number: 64-19-7

Pennsylvania Right To Know Components
Acetic acid
CAS number: 64-19-7

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian Domestic Substances List (DSL)
Chemical name: Acetic acid
CAS: 64-19-7

HMIS Rating

Acetic Acid	
HEALTH	3
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA Rating

SECTION 16: Other information

16.1 Further information/disclaimer

Disclaimer:

High Purity Products provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. HIGH PURITY PRODUCTS MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, HIGH PURITY PRODUCTS WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.