

Safety Data Sheet

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

SECTION 1: Identification

Product identifier

Trade name/designation:	Acetic acid
Product No.:	9522
Synonyms:	none/none

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	For Further Manufacturing Use Only
Uses advised against	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Supplier

Avantor Performance Materials, LLC.

Street	100 Matsonford Rd, Suite 200
Postal code/City	Radnor, PA 19087, United States
Telephone	855-282-6867
Telefax:	610-573-2610

Emergency phone number

Telephone	CHEMTREC: 1-800-424-9300
-----------	--------------------------

Preparation Information

Product Information Compliance

E-mail	SDS@avantosciences.com
--------	------------------------

SECTION 2: Hazard identification

Classification of the substance or mixture

Label elements

Physical hazards

Flammable liquid, category 3

Health hazards

Skin corrosion, category 1A

Hazard pictograms



Signal word: Danger

Flammable liquid and vapor.
Causes severe skin burns and eye damage.

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Immediately call a POISON CENTER/doctor.

Hazards not otherwise classified (HNOC)

none/none

SECTION 3: Composition / information on ingredients

Substances

Substance name	Acetic acid
Molecular formula	H ₃ CCOOH
Molecular weight	60.05 g/mol
CAS No.	64-19-7

SECTION 4: First aid measures

4.1 General information

IF exposed: Immediately call a POISON CENTER/doctor. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

In case of inhalation

Immediately call a POISON CENTER/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth thoroughly with water. Give nothing to eat or drink.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

no data available

SECTION 5: Fire fighting measures**Extinguishing media****Suitable extinguishing media**

Water spray
ABC-powder
Carbon dioxide (CO₂)
Nitrogen

Extinguishing media which must not be used for safety reasons

no restriction

Specific hazards arising from the chemical

In case of fire may be liberated:
Carbon monoxide
Carbon dioxide (CO₂)

Advice for firefighters

DO NOT fight fire when fire reaches explosives.
Protective equipment and precautions for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

In case of major fire and large quantities: Remove persons to safety.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

Additional information

Clear spills immediately.

SECTION 7: Handling and storage

Precautions for safe handling

All work processes must always be designed so that the following is as low as possible:

Inhalation

skin contact

Eye contact

Keep away from sources of ignition - No smoking.

Usual measures for fire prevention.

Take precautionary measures against static discharges.

Protect from moisture.

Conditions for safe storage, including any incompatibilities

Recommended storage temperature: Ambient temperature

Keep container tightly closed and in a well-ventilated place. Keep/Store away from combustible materials.

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value
Acetic acid	CNESST	CA	VECD	37 mg/m ³ - 15 ppm
Acetic acid	CNESST	CA	VEMP	25 mg/m ³ - 10 ppm

Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

Suitable material:	CR (polychloroprene, chloroprene rubber)
Thickness of the glove material:	0,13 mm
Breakthrough time::	17 min

By long-term hand contact

Suitable material:	CR (polychloroprene, chloroprene rubber)
Thickness of the glove material:	-
Breakthrough time::	> 480 min

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

- | | |
|----------------------|-------------------|
| (a) Appearance | |
| Physical state: | liquid |
| Color: | colorless |
| (b) Odour: | no data available |
| (c) Odour threshold: | no data available |

Safety relevant basic data

- | | |
|--|--------------------------------|
| (d) pH: | 1.3-1.8 (20 °C) |
| (e) Melting point/freezing point: | 17 °C |
| (f) Initial boiling point and boiling range: | 118 °C (1013 hPa) |
| (g) Flash point: | 38.5 °C |
| (h) Evaporation rate: | no data available |
| (i) Flammability (solid, gas): | Flammable liquid and vapor. |
| (j) Flammability or explosive limits | |
| Lower explosion limit: | no data available |
| Upper explosion limit: | no data available |
| (k) Vapour pressure: | no data available |
| (l) Vapour density: | no data available |
| (m) Relative density: | 1.05 g/cm ³ (20 °C) |
| (n) Solubility(ies) | |
| Water solubility: | no data available |
| Soluble (g/L) in Ethanol: | no data available |
| (o) Partition coefficient: n-octanol/water: | no data available |
| (p) Auto-ignition temperature: | 485 °C |
| (q) Decomposition temperature: | no data available |
| (r) Viscosity | |
| Kinematic viscosity: | no data available |
| Dynamic viscosity: | 1.22 mPa*s (20 °C) |
| (s) Explosive properties: | not applicable |
| (t) Oxidising properties: | not applicable |

Other information

- | | |
|------------------------|------------------------|
| Bulk density: | no data available |
| Refraction index: | 1.3718 (589 nm; 25 °C) |
| Dissociation constant: | no data available |
| Surface tension: | no data available |
| Henry's Law Constant: | no data available |

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

no data available

SECTION 11: Toxicological information**Information on toxicological effects****Acute effects**

Acute oral toxicity:

LD50: > 3310 mg/kg - Rat - (RTECS)

Acute dermal toxicity:

LD50: > 1060 mg/kg - Rabbit - (IUCALD)

Acute inhalation toxicity:

LC50: 11.4 mg/l - Rat - (National Library of Medicine ChemID Plus (NLM CIP))

Irritant and corrosive effects

Primary irritation to the skin:

Causes severe skin burns and eye damage.

Irritation to eyes:

Causes serious eye damage.

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitization

In case of skin contact: not sensitising

In case of inhalation: not sensitising

STOT-single exposure

not applicable

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

SECTION 12: Ecological information**Ecotoxicity****Fish toxicity:**

LC50: 88 mg/l (96 h) - Mattson, V.R., J.W. Arthur, and C.T. Walbridge 1976. Acute Toxicity of Selected Organic Compounds to Fathead Minnows. EPA-600/3-76-097, U.S.EPA, Duluth, MN :12 p.

Daphnia toxicity:

EC50: 90.1 mg/l (48 h) - Espiritu, E.Q., C.R. Janssen, and G. Persoone 1995. Cyst-Based Toxicity Tests. VII. Evaluation of the 1-h Enzymatic Inhibition Test (Fluotox) with Artemia nauplii. Environ.Toxicol.Water Qual. 10:25-34

LC50: 65 mg/l (48 h) - Janssen, C.R., E.Q. Espiritu, and G. Persoone 1993. Evaluation of the new "Enzymatic Inhibition" Criterion for Rapid Toxicity Testing with Daphnia magna

Algae toxicity:

no data available

Bacteria toxicity:

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

Mobility in soil:

no data available

Results of PBT/vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (DOT)

UN-No.:	2789
Proper Shipping Name:	ACETIC ACID, GLACIAL
Class(es):	8 (3)
Hazard label(s):	8+3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN-No.:	2789
Proper Shipping Name:	ACETIC ACID, GLACIAL
Class(es):	8 (3)
Classification code:	
Hazard label(s):	8+3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	1
EmS-No.	F-E S-C
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not relevant

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	2789
Proper Shipping Name:	ACETIC ACID, GLACIAL
Class(es):	8 (3)
Classification code:	
Hazard label(s):	8+3
Packing group:	II
Special precautions for user:	

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA 313 Components

Not listed.

Massachusetts Right To Know Components

Listed

Pennsylvania Right To Know Components

Listed

New Jersey Right To Know Components

Listed

California Prop. 65 Components

Not listed.

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Training advice: Provide adequate information, instruction and training for operators.

Additional information

Indication of changes: general update

If you need an explanation of the change, contact the supplier. (SDS@avantorsciences.com)

Disclaimer

The information provided in this Safety Data Sheet (SDS) was prepared based on data believed to be accurate as of the date of this SDS. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR PERFORMANCE MATERIALS ("AVANTOR") EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN INCLUDING, WITHOUT LIMITATION, AS TO ACCURACY, COMPLETENESS, FITNESS FOR PURPOSE OR USE, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY AND STABILITY. This SDS is intended as a guide to the appropriate use, handling, storage and disposal of the product to which it relates by properly trained personnel, and is not intended to be comprehensive. Users of Avantor's products are advised to perform their own tests and to exercise their own judgment to determine the safety, suitability and appropriate use, handling, storage and disposal of each product and product combination for their own purposes and uses. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR DISCLAIMS LIABILITY FOR, AND BY USING AVANTOR'S PRODUCTS PURCHASER AGREES THAT UNDER NO CIRCUMSTANCES SHALL AVANTOR BE LIABLE FOR, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR KIND, INCLUDING WITHOUT LIMITATION, FOR LOSS OF PROFITS, REPUTATIONAL DAMAGE, PRODUCT RECALL OR BUSINESS INTERRUPTION.