

SAFETY DATA SHEET

1. Identification of the hazardous chemical and of the supplier

Product identifier: Acetic Acid, Glacial

Other means of identification

Product No.: 0565, 2502, 2504, 3121, 6003, 6903, 7711, 8817, 9375, 9500, 9502, 9503, 9505, 9506, 9508, 9511, 9513, 9515, 9517, 9522, 9524, 9526, BS03, V155, V190, V193

Recommended use of the chemical and restrictions on use

Recommended use: For Laboratory, Research or Manufacturing Use.

Recommended restrictions: Not determined.

Details of the supplier of the safety data sheet

Company Name:	Avantor Performance Materials, LLC
Address:	100 Matsonford Rd, Suite 200 Radnor, PA 19087
Telephone:	Customer Service: 855-282-6867
Contact Person:	Product Information Compliance
E-mail:	info@avantormaterials.com

Emergency telephone number: CHEMTREC: 01-800-681-9531 (24/7)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3
Corrosive to metal	Category 1

Health Hazards

Acute toxicity (Oral)	Category 5
Acute toxicity (Dermal)	Category 4
Acute toxicity (Inhalation - vapor)	Category 4
Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1

Environmental Hazards

Acute hazards to the aquatic environment	Category 3
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Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: H226: Flammable liquid and vapor.
H290: May be corrosive to metals.
H312+H332: Harmful in contact with skin or if inhaled.
H303: May be harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H402: Harmful to aquatic life.

Precautionary Statements

Prevention: P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof [electrical/ventilating/lighting] equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P234: Keep only in original packaging.

Response: P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P312: Call a POISON CENTER/doctor if you feel unwell.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P363: Wash contaminated clothing before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER/doctor.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378: In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction.
P390: Absorb spillage to prevent material damage.

Storage: P403: Store in a well-ventilated place.
P235: Keep cool.
P405: Store locked up.
P406: Store in a corrosion-resistant container with a resistant inner liner.
P233: Keep container tightly closed.

Disposal: P501: 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

Substances

Chemical Identity	CAS number	Content in percent (%)*
Acetic acid	64-19-7	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

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

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

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.

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.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: In case of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

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 immediate area). Evacuate area.

Methods and material 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.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

7. Handling and storage

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 container 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.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Do not store 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 cool, dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Acetic acid	VLE-PPT	10 ppm	Mexico. OELs. (NOM-010-STPS-2014 Chemical Pollutants at the Workplace; Assessment and Control) (04 2014)
	VLE-CT	15 ppm	Mexico. OELs. (NOM-010-STPS-2014 Chemical Pollutants at the Workplace; Assessment and Control) (04 2014)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

**Skin Protection
Hand Protection:**

Chemical resistant gloves

Other:

Wear suitable protective clothing.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures:

Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

9. Physical and chemical properties
Appearance

Physical state:

Liquid

Form:

Liquid

Color:

Colorless

Odor:

Strong pungent vinegar-like odor

Odor threshold:

No data available.

pH:

2.4 (1.0 M aqueous solution)

Melting point/freezing point:

16.4 °C

Initial boiling point and boiling range:

117.9 °C

Flash Point:	39.4 °C (Closed Cup)
Evaporation rate:	0.97 (butyl acetate=1)
Flammability (solid, gas):	Class II Combustible Liquid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	19.9 %(V)
Flammability limit - lower (%):	4 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	2.093 kPa (25 °C)
Vapor density:	2.1 (Air=1)
Density:	1.05 g/ml (20 °C)
Relative density:	1.05 (20 °C)
Solubility(ies)	
Solubility in water:	Miscible
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	-0.17
Auto-ignition temperature:	426 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Liquid conductivity:	0.05 µS/cm (0 °C)
Molecular weight:	60.05 g/mol (C ₂ H ₄ O ₂)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames. Moisture. Contact with incompatible materials.
Incompatible Materials:	Strong alkalis. Strong oxidizing agents.
Hazardous Decomposition Products:	Oxides of Carbon.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	Harmful if inhaled. May cause respiratory irritation.
Skin Contact:	Harmful in contact with skin. Causes severe skin burns.
Eye contact:	Causes serious eye damage.

Ingestion: May be harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): 3,310 - 3,530 mg/kg

Dermal
Product: LD 50 (Rabbit): 1,060 mg/kg

Inhalation
Product: LC 50 (Rat, 4 h): 11.4 mg/l
LOAEL (Rat, 4 h): 450 ppm

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: Causes severe skin burns.

Serious Eye Damage/Eye Irritation
Product: Causes serious eye damage.

Respiratory or Skin Sensitization
Product: Not a skin nor a respiratory sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure
Product: Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure
Product: None known.

Aspiration Hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 75 mg/l

Aquatic Invertebrates

Product: EC 50 (Water flea (*Daphnia magna*), 48 h): 65 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: Expected to be readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: -0.17

Mobility in soil:

The product is water soluble and may spread in water systems.

Other adverse effects:

Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions:

Discharge, treatment, or disposal may be subject to national, state, or local laws. 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.

Contaminated Packaging:

Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

SCT

UN Number:	UN 2789
UN Proper Shipping Name:	ACETIC ACID, GLACIAL
Transport Hazard Class(es)	
Class:	8
Label(s):	8, 3
Packing Group:	II
Environmental Hazards:	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 2789
Proper Shipping Name:	Acetic acid, glacial
Transport Hazard Class(es):	
Class:	8
Label(s):	8, 3
Packing Group:	II
Environmental Hazards:	No
Special precautions for user:	Keep away from alkalis.

IMDG

UN Number:	UN 2789
UN Proper Shipping Name:	ACETIC ACID, GLACIAL
Transport Hazard Class(es)	
Class:	8
Label(s):	8, 3
EmS No.:	F-E, S-C
Packing Group:	II
Environmental Hazards:	No
Special precautions for user:	Keep away from alkalis.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

15. Regulatory information

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

Mexico. Substances subject to reporting for the pollutant release and transfer registry (PRTR)
Not applicable

Mexico. Federal Law for the Control of Chemical Substances Susceptible to Diversion to Manufacturing of Chemical Weapons, Appendix 1: National list of chemical substances
Not applicable

Mexico. Wastewater Discharges - Maximum Limits into Coastal Waters, Dams, Rivers, Soil and Wetlands (NOM-001-ECOL)
none

Mexico. Hazardous Chemicals (NOM-028-STPS-2012, System for administration of workplace safety in the process and critical equipment for handling hazardous chemicals, Appendix A, Table A.I)

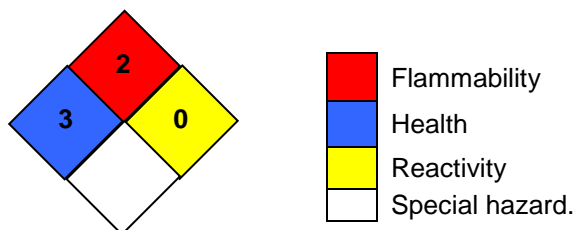
Mexico. Narcotic Drugs List (General Health Law, Articles 234 & 239, Feb. 7, 1984)
Mexico. Psychotropic Drugs (General Health Law, Feb. 7, 1984, Articles 245 & 254 Bis)

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 12-01-2020

Revision Information: No data available.

Version #: 2.0

Source of information: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

Further Information: No data available.

Disclaimer:

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