SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Eastman(TM) Glacial Acetic Acid, USP

Product No.: EAN 900763. P1368801

Synonyms, Trade Names: 13688-00

Additional identification

Chemical name:	acetic acid
CAS-No.:	64-19-7

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

Identified uses: Solvent

Uses advised against: None known.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard Classification:

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity - Single Exposure (Inhalation)	Category 3

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:

Signal Words: DANGER!

Hazard Statement(s):
H226: Flammable liquid and vapor.
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.

Precautionary Statement:

Prevention:
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264: Wash hands thoroughly after handling.

Response:
P370+P378: In case of fire; Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction.
P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P363: Wash contaminated clothing before reuse.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310: Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P235: Keep cool.
P405: Store locked up.

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.

Hazard(s) not otherwise classified (HNOC): None known.

SECTION 3: Composition/information on ingredients

Substances / Mixtures

General information:

Chemical name	Concentration	Additional identification	Notes
acetic acid	100%	CAS-No.: 64-19-7	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
# This substance has workplace exposure limit(s).

SECTION 4: First aid measures

Description of first aid measures

Inhalation: Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

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 if symptoms persist.

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.

Ingestion: Call a physician or poison control center immediately. Do NOT induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration.

Most important symptoms and effects, both acute and delayed: May irritate and cause redness and pain.

Indication of any immediate medical attention and special treatment needed

Hazards: None known.

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards: Combustible liquid and vapor.

Extinguishing media

Suitable extinguishing media: Water spray. Dry chemical. Carbon Dioxide. Alcohol foam.

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture: 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.

Advice for firefighters

Special fire fighting procedures: Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear appropriate personal protective equipment.

Environmental Precautions: Avoid release to the environment.

Methods and material for containment and cleaning up: Eliminate sources of ignition. Neutralize spill area and washings with soda ash or lime. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling: Avoid breathing mists or vapors. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Keep container closed.

Specific end use(s): Solvent

SECTION 8: Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Country specific exposure limits have not been established or are not applicable unless listed below.

Chemical name	type	Exposure Limit Values	Source
acetic acid	TWA	10 ppm	US. ACGIH Threshold Limit Values (01 2010)
	STEL	15 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	10 ppm 25 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Exposure controls

Appropriate engineering controls: 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.

Individual protection measures, such as personal protective equipment

General information:	Eye bath. Washing facilities. Safety shower.
Eye/face protection:	Use safety goggles and face shield in case of splash risk. Wear a full-face respirator, if needed.
Skin protection	
Hand Protection:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Other:	No data available.
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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: 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:	Observe good industrial hygiene practices.
Environmental Controls:	No data available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Form:	liquid
Color:	colorless
Odor:	Pungent
Odor Threshold:	No data available.
pH:	2.4 (60 g/l,) 2.4 (60 g/l,)
Freezing Point:	16.64 °C
Boiling Point:	117.9 °C
Flash Point:	39 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	Flammable.
Flammability Limit - Upper (%)–:	19.9 %(V)
Flammability Limit - Lower (%)–:	4 %(V)
Vapor pressure:	20.79 hPa (25 °C)
Vapor density (air=1):	2.1
Specific Gravity:	1.0446 (25 °C)
Solubility(ies)	
Solubility in Water:	602.9 g/l (25 °C)

Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	log Pow: -0.17
Autoignition Temperature:	463 °C
Decomposition Temperature:	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
Dynamic viscosity:	1.056 mPa.s (25 °C)
Kinematic viscosity:	1.011 mm2/s
Explosive properties:	Not classified.
Oxidizing properties:	Not classified.

SECTION 10: Stability and reactivity

Reactivity:	None known. Materials containing similar structural groups are normally stable.
Chemical Stability:	Not fully evaluated.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Carbon Monoxide. Carbon Dioxide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation:	Severely irritating to respiratory system.
Ingestion:	May cause burns of the gastrointestinal tract if swallowed.
Skin contact:	Causes skin burns.
Eye contact:	Causes serious eye damage.

Information on toxicological effects

Oral

Product:	No data available.
Specified substance(s):	
acetic acid	Oral LD-50: (Rat): 3,320 mg/kg

Dermal

Product:	No data available.
Specified substance(s):	
acetic acid	Dermal LD-50: (Rabbit): 1,060 mg/kg

Inhalation

Product:	No data available.

Specified substance(s):

acetic acid — LC50 (Rat, 4 h): > 16000 ppm

Repeated dose toxicity

Product: No data available.

Specified substance(s):

acetic acid — NOAEL (Rat, Oral Study): 290 mg/kg
NOAEL (Rat, Dermal Study): 30 mg/kg

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

acetic acid — (Rabbit, 24 h): Severe

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

acetic acid — (Rabbit): Severe

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

acetic acid — There is no data available to indicate sensitizing potential for this substance.

Carcinogenicity

Product: No data available.

Toxicity to reproduction

Product: No data available.

Developmental toxicity

Product: No data available.

Specified substance(s):

acetic acid — Rat; NOAEL: 345 mg/kg; Ingestion

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

acetic acid — Salmonella typhimurium assay (Ames test) (Bacterial Reverse Mutation Assay): negative
Chromosomal aberration (In vitro Mammalian Chromosome Aberration Test): negative

In vivo

Product: No data available.

Specified substance(s):

acetic acid — Chromosomal aberration Inhalation - vapor (Rat): Read-across from a similar material negative

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

SECTION 12: Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

acetic acid — LC-50 (Fathead Minnow, 96 h): 300.82 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

acetic acid — EC-50 (daphnid, 48 h): > 300.82 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.

Specified substance(s):

acetic acid — EC-50 (Alga, 72 h): 300.82 mg/l

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

acetic acid	96 % (20 d) Readily biodegradable

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

acetic acid	Bioconcentration Factor (BCF): 3.16

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: -0.17 20 °C

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

acetic acid	Log Koc: 0.062 (QSAR model)

Other Adverse Effects: No data available.

SECTION 13: Disposal considerations

Waste treatment methods

General information: No data available.

Disposal methods: Dispose of waste and residues in accordance with local authority requirements. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Reportable Quantity: 2,270 kg (acetic acid)
Possible Shipping Description(s):

UN 2789 Acetic acid, glacial 8 (3) II

IMDG - International Maritime Dangerous Goods Code

Possible Shipping Description(s):

UN 2789 ACETIC ACID, GLACIAL 8 (3) II

IATA

Possible Shipping Description(s):

UN 2789 Acetic acid, glacial 8 (3) II

SECTION 15: Regulatory information

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

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.
WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: B/3, E

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard
fire hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List
NONE

OSHA: hazardous

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 3, Flammability - 2, Chemical Reactivity - 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information:	New SDS
Key literature references and sources for data:	No data available.
Training information:	No data available.
Issue Date:	05/15/2015
SDS No.:	
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.