Eastman(TM) Glacial Acetic Acid, USP

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	12/13/2019	150000014176	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	

SECTION 1. IDENTIFICATION

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

Product code : 13688-00, P1368800, P1368801, P13688NB, P1368807

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive
Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Solvent

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 3

Skin corrosion : Category 1A

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

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

Precautionary Statements :

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.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

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

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P401: Store above 16.4 °C to prevent freezing.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
acetic acid	64-19-7	100

SECTION 4. FIRST AID MEASURES

If inhaled : Remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get immediate medical advice/ attention.

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.

In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Most important symptoms and effects, both acute and delayed	:	Causes severe skin burns and eye damage.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Dry chemical Carbon dioxide (CO2) Foam
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Cool closed containers exposed to fire with water spray. Flash back possible over considerable distance. Prevent buildup of vapors or gases to explosive concentrations.
Further information	:	Flammable liquid and vapor.
Special protective equipment for fire-fighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.
Environmental precautions	:	Avoid release to the environment.
Methods and materials for containment and cleaning up	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Keep away from heat and sources of ignition.
Advice on safe handling	:	Avoid inhalation, ingestion and contact with skin and eyes. Use only with adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage : Keep container tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acetic acid	64-19-7	TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
		TWA	10 ppm 25 mg/m3	NIOSH REL
		ST	15 ppm 37 mg/m3	NIOSH REL
		TWA	10 ppm 25 mg/m3	OSHA Z-1
		TWA	10 ppm 25 mg/m3	OSHA P0

Engineering measures : 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.

Personal protective equipment

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.

Hand protection

Remarks : Wear suitable gloves. Wash hands after handling.

Eye protection : Safety glasses with side-shields
Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color	:	colorless
Odor	:	pungent
Odor Threshold	:	not determined
pH	:	2.4 Concentration: 60 g/l
Melting point/freezing point	:	61.95 °F / 16.64 °C
Boiling point/boiling range	:	244.2 °F / 117.9 °C
Flash point	:	102 °F / 39 °C
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Flammable.
Self-ignition	:	865 °F / 463 °C
Upper explosion limit / Upper flammability limit	:	19.9 %(V)
Lower explosion limit / Lower flammability limit	:	4 %(V)
Vapor pressure	:	20.79 hPa (77 °F / 25 °C)
Relative vapor density	:	2.1
Relative density	:	1.0446 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	602.9 g/l (77 °F / 25 °C)
Autoignition temperature	:	not determined
Decomposition temperature	:	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
Viscosity		
Viscosity, dynamic	:	1.056 mPa.s (77 °F / 25 °C)
Viscosity, kinematic	:	1.011 mm2/s
Explosive properties	:	Not classified
Oxidizing properties	:	Not classified

Surface tension	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon monoxide Carbon dioxide (CO2)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:

acetic acid:

Acute oral toxicity	:	LD50 Oral (Rat): 3,320 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 16000 ppm Exposure time: 4 h

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks	:	No data available

Components:

acetic acid:

Species	:	Rabbit
Exposure time	:	24 h
Result	:	Corrosive

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks : No data available

Components:

acetic acid:

Species : Rabbit
Result : Corrosive

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Components:

acetic acid:

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)
Metabolic activation: +/- activation
Method: Bacterial Reverse Mutation Assay
Result: negative

Test Type: Chromosome aberration test in vitro
Metabolic activation: +/- activation
Method: In vitro Mammalian Chromosome Aberration Test
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Rat
Application Route: inhalation (vapor)
Result: negative
Remarks: Read-across from a similar material

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: No data available

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Repeated dose toxicity

Components:

acetic acid:

Species : Rat
NOAEL : 290 mg/kg
Application Route : Oral Study

Species : Rat
NOAEL : 30 mg/kg
Application Route : Dermal Study

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Information on likely routes of exposure

Product:

Inhalation : Remarks: None known.

Skin contact	:	Remarks: Causes skin burns.
Eye contact	:	Remarks: Causes serious eye damage.
Ingestion	:	Remarks: None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

acetic acid:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 300.82 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (daphnid): > 300.82 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Chlorella pyrenoidosa): 300.82 mg/l Exposure time: 72 h

Persistence and degradability

Components:

acetic acid:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 96 % Exposure time: 20 d
Biochemical Oxygen Demand (BOD)	:	BOD-5: 340 - 880 mg/g BOD-20: 900 mg/g
Chemical Oxygen Demand (COD)	:	1,030 mg/g

Bioaccumulative potential

Components:

acetic acid:

Bioaccumulation	:	Bioconcentration factor (BCF): 3.16
Partition coefficient: n-octanol/water	:	Pow: 0.49 log Pow: -0.31

Mobility in soil

Components:

acetic acid:

Distribution among environmental compartments : log Koc: 0.062
Method: QSAR model

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 2789
Proper shipping name	:	Acetic acid, glacial
Class	:	8
Subsidiary risk	:	3
Packing group	:	II
Labels	:	Class 8 - Corrosive substances, Class 3 - Flammable liquids
Packing instruction (cargo aircraft)	:	855
Packing instruction (passenger aircraft)	:	851

IMDG-Code

UN number	:	UN 2789
Proper shipping name	:	ACETIC ACID, GLACIAL
Class	:	8
Subsidiary risk	:	3
Packing group	:	II
Labels	:	8 (3)
EmS Code	:	F-E, S-C
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 2789
Proper shipping name	:	Acetic acid, glacial
Class	:	8

Subsidiary risk	:	3
Packing group	:	II
Labels	:	Class 8 - Corrosive substances, Class 3 - Flammable liquids
ERG Code	:	132
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
acetic acid	64-19-7	5000	5000

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)

SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

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

The ingredients of this product are reported in the following inventories:

CH INV	:	On the inventory, or in compliance with the inventory
DSL	:	On the inventory, or in compliance with the inventory
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

TSCA list

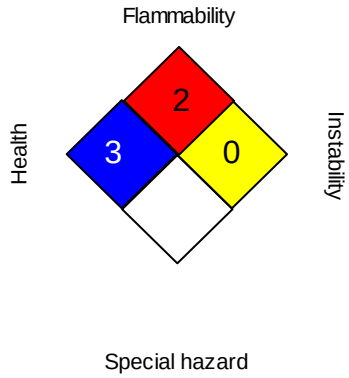
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

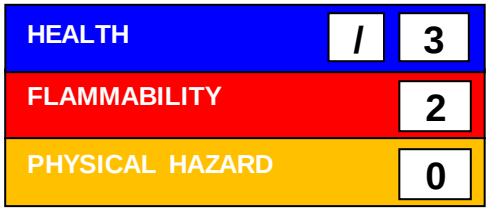
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the

German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 12/13/2019

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8