

**Safety Data Sheet**  
 acc. to OSHA HCS

Page 1/9

Printing date 07/15/2017  
 Reviewed on 07/15/2017  
 Version number: 5

## 1 Identification

- **Product identifier**
- **Trade name:** Acetic acid
- **Article number:** A3686
- **CAS Number:**  
64-19-7
- **EC number:**  
200-580-7
- **Index number:**  
607-002-00-6
- **Application of the substance / the mixture**  
 Chemical analytics  
 Pharmaceutical analysis  
 Biochemistry  
 Molecular biology  
 Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 AppliChem GmbH  
 Ottoweg 4  
 D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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 msds@applichem.com

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
 Flam. Liq. 3 H226 Flammable liquid and vapor.  
 Skin Corr. 1A H314 Causes severe skin burns and eye damage.
- **Label elements**
- **GHS label elements**  
 The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02 GHS05

- **Signal word** Danger
- **Hazard statements**  
 H226 Flammable liquid and vapor.  
 H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(Contd. on page 2)

Trade name: Acetic acid

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3  
Fire = 2  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 4  
Fire = 2  
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
64-19-7 Acetic acid
- **Identification number(s)**
- **EC number:** 200-580-7
- **Index number:** 607-002-00-6

### \* 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Personal protection for the First Aider.
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:**  
Call a doctor immediately.  
Immediately wash with water and soap and rinse thoroughly.  
Immediately remove any clothing soiled by the product.  
Cover wound with a sterile dressing.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Call a doctor immediately.
- **After swallowing:**  
Rinse out mouth.  
make victim drink water (maximum of 2 drinking glasses)  
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### \* 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

(Contd. on page 3)

**Trade name: Acetic acid**

(Contd. of page 2)

- **Special hazards arising from the substance or mixture**  
Combustible.  
Vapours are heavier than air and may spread along floors.  
During heating or in case of fire poisonous gases are produced.  
In case of fire, the following can be released:  
CO, CO<sub>2</sub>
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Cool endangered receptacles with water spray.  
Contain escaping vapours with water.

## **6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Avoid substance contact.  
Do not inhale steams/aerosols.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Ensure adequate ventilation.  
Clean up affected area.  
Dispose of the collected material according to regulations.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
  - **PAC-1:** 5 ppm
  - **PAC-2:** 35 ppm
  - **PAC-3:** 250 ppm

## **7 Handling and storage**

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**  
Store away from oxidizing agents.  
Store away from metals.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Open receptacle only under localized extractor facilities.  
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** +15 - +25 °C
- **Storage class:** 3

(Contd. on page 4)

Trade name: Acetic acid

(Contd. of page 3)

- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

### 64-19-7 Acetic acid

PEL	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
REL	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
TLV	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.  
Short term filter device:  
Filter A
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**  
Recommended thickness of the material:  $\geq 0.7$  mm  
Butyl rubber, BR  
Value for the permeation: Level  $\geq 480$  min
- **As protection from splashes gloves made of the following materials are suitable:**  
Recommended thickness of the material:  $\geq 0.6$  mm  
Natural rubber, NR  
Value for the permeation: Level  $\geq 30$  min
- **Eye protection:**



Tightly sealed goggles

(Contd. on page 5)

Trade name: Acetic acid

(Contd. of page 4)

• **Body protection:**

Acid resistant protective clothing

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

## 9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:

Fluid

Color:

Colorless

• **Odor:**

Pungent

• **pH-value:**

2.5

• **Change in condition**

Melting point/Melting range:

17 °C (63 °F)

Boiling point/Boiling range:

118 °C (244 °F)

• **Flash point:**

39 °C (102 °F)

• **Ignition temperature:**

463 °C (865 °F)

• **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

• **Explosion limits:**

Lower:

4 Vol %

Upper:

16 Vol %

• **Vapor pressure at 20 °C (68 °F):**

16 hPa (12 mm Hg)

• **Density at 20 °C (68 °F):**

1.05 g/cm<sup>3</sup> (8.762 lbs/gal)

• **Solubility in / Miscibility with**

Water at 25 °C (77 °F):

603 g/l

• **Partition coefficient (n-octanol/water):** -0.17005

• **Viscosity:**

Dynamic at 20 °C (68 °F):

1.53 mPas

Kinematic:

Not determined.

• **Other information**

No further relevant information available.

## 10 Stability and reactivity

• **Reactivity** No dangerous reactions known.

• **Chemical stability**

• **Thermal decomposition / conditions to be avoided:** Heating

• **Possibility of hazardous reactions** No dangerous reactions known.

• **Conditions to avoid** No further relevant information available.

• **Incompatible materials:** strong oxidants

• **Hazardous decomposition products:** In the event of fire: See chapter 5

• **Additional information:**

Incompatible with:

metals

Forms explosive mixtures with air on intense heating.

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(Contd. on page 6)

Trade name: Acetic acid

(Contd. of page 5)

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Components	Type	Value	Species
Oral	LD50	3,310 mg/kg (rat)	
Dermal	LD50	1,130 mg/kg (rabbit)	
Inhalative	LC50/4 h	5,620 mg/l (mouse)	

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**

Type of test	Effective concentration	Method	Assessment
EC50/72 h	>300.8 mg/l (Algae)		
EC50/24 h	>300.8 mg/l (daphnia magna)	(OECD 202)	
LC50/96 h	>300.8 mg/l (fish)	(OECD 203)	

- **Persistence and degradability** The product is easily biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** Distribution log Pow<1.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Water hazard class 1 (Assessment by list): slightly hazardous for water  
Do not allow to enter waters, waste water, or soil.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Chemicals must be disposed of in compliance with the respective national regulations.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)

Trade name: Acetic acid

(Contd. of page 6)

- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN2789
- **UN proper shipping name**
- **DOT, ADR** Acetic acid, glacial
- **IMDG, IATA** ACETIC ACID, GLACIAL

- **Transport hazard class(es)**
- **DOT**



- **Class** 8 Corrosive substances
- **Label** 8, 3

- **ADR**



- **Class** 8 (CF1) Corrosive substances
- **Label** 8+3

- **IMDG**



- **Class** 8 Corrosive substances
- **Label** 8/3

- **IATA**



- **Class** 8 Corrosive substances
- **Label** 8 (3)

- **Packing group**
- **DOT, ADR, IMDG, IATA** II

- **Environmental hazards:**
- **Marine pollutant:** No

- **Special precautions for user** Warning: Corrosive substances
- **Danger code (Kemler):** 83
- **EMS Number:** F-E,S-C
- **Segregation groups** Acids

(Contd. on page 8)

Trade name: Acetic acid

(Contd. of page 7)

- |  |   |
|--|---|
| · <b>Stowage Category</b>  | A   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.   |
| · <b>Transport/Additional information:</b>                                       |   |
| · <b>ADR</b>   |   |
| · <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>IMDG</b>  |   |
| · <b>Limited quantities (LQ)</b>   | 1L  |
| · <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Regulation":</b>  | UN 2789 ACETIC ACID, GLACIAL, 8 (3), II   |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02 GHS05

- **Signal word** Danger
- **Hazard statements**  
H226 Flammable liquid and vapor.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.



**Trade name: Acetic acid**

(Contd. of page 8)

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Contact:** Mr. Th. Stöckle
- **Date of preparation / last revision** 07/15/2017 / 4
- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 3: Flammable liquids – Category 3

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

- **\* Data compared to the previous version altered.**

— US —