

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/24/2024

Reviewed on 10/24/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Acetic acid 100 %
- **Article number:** 45633
- **CAS Number:**  
64-19-7
- **EC number:**  
200-580-7
- **Index number:**  
607-002-00-6
- **Application of the substance / the mixture:** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SERVA Electrophoresis GmbH  
Carl-Benz-Str. 7  
D-69115 Heidelberg  
Tel.: +49 6221 13840-0  
FAX: +49 6221 13840-10  
msds.info@serva.de
- **Information department:** Product Safety Department Tel.: +49 6221 13840-35
- **Emergency telephone number:**  
Emergency medical information in case of poisoning  
Poison Information Center Mainz-Tel: +49 (0) 6131 19240  
(Advice in German and English)

**SERVA**  
■ serving scientists ■

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02

Flammable Liquids 3 H226 Flammable liquid and vapor.



GHS05

Skin Corrosion 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:**  
Flammable liquid and vapor.  
Causes severe skin burns and eye damage.
- **Precautionary statements**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.

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



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



- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**  
64-19-7 acetic acid 100 %
- **Identification number(s):**
- **EC number:** 200-580-7
- **Index number:** 607-002-00-6
- **Description:**
- **Empirical formula:**  $C_2H_4O_2$
- **MW:** 60.05

### \* 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes with running water. Remove existing contact lenses, if possible, and continue rinsing. Consult an ophthalmologist immediately.
- **After swallowing:**  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.  
Do not induce vomiting!
- **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:**  
 $CO_2$  extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
Flammable substance, vapors are heavier than air and spread on the ground. Vapors may accumulate in low-lying areas.  
Vapors may form flammable and explosive mixtures with air.  
In case of fire, formation of hazardous fire gases or vapors possible.

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*In case of fire, the following can be released:*

*Carbon monoxide and carbon dioxide*

**· Advice for firefighters**

**· Protective equipment:** *Wear self-contained breathing apparatus.*

**· Additional information**

*Collect contaminated fire fighting water separately. It must not enter the sewage system.*

*Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.*

## \* 6 Accidental release measures

**· Personal precautions, protective equipment and emergency procedures**

*Wear protective clothing.*

*Ensure adequate ventilation*

*Avoid contact with eyes and skin.*

**· Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*

**· Methods and material for containment and cleaning up**

*Dispose contaminated material as waste according to section 13.*

*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*

**· Protective Action Criteria for Chemicals**

**· PAC-1:** *5 ppm*

**· PAC-2:** *35 ppm*

**· PAC-3:** *250 ppm*

**· 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.*

## \* 7 Handling and storage

**· Precautions for safe handling:** *Ensure good ventilation/exhaustion at the workplace.*

**· Information about protection against explosions and fires:**

*Protect against electrostatic charges.*

*Keep ignition sources away - Do not smoke.*

**· Conditions for safe storage, including any incompatibilities**

**· Storage:**

**· Requirements to be met by storerooms and receptacles:**

*Store only in the original receptacle.*

*Provide acid-resistant floor.*

**· Information about storage in one common storage facility:** *Store away from oxidizing agents.*

**· Further information about storage conditions:**

*Store container tightly closed and dry.*

*This product is hygroscopic.*

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

## \* 8 Exposure controls/personal protection

**· Control parameters**

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

**64-19-7 acetic acid 100 % (80-100%)**

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

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TLV	Short-term value: 15 ppm Long-term value: 10 ppm
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Store protective clothing separately.  
Immediately remove all soiled and contaminated clothing.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:**  
Short term filter device:  
Filter A/P2
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Protective gloves  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
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 of a maximum of 15 minutes gloves made of the following materials are suitable:**  
Butyl rubber, BR  
PVC gloves
- **Eye protection:** Tightly sealed goggles
- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information:**
- **Color:** Colorless
- **Odor:** Pungent
- **Odor threshold:** not determined.
- **Melting point/Melting range:** 16-17 °C (60.8-62.6 °F)
- **Boiling point/Boiling range:** 104 °C (219.2 °F)
- **Flammability (solid, gaseous):** Flammable.
- **Explosion limits:**
- **Lower:** 4 Vol %
- **Upper:** 17 Vol %
- **Flash point:** 39 °C (102.2 °F)
- **Auto igniting:** 485 °C (905 °F)
- **Decomposition temperature:** No information available
- **pH-value:** 2.5
- **Viscosity:**
- **Kinematic viscosity:** No information available

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- **Dynamic viscosity:** No information available
- **Solubility in / Miscibility with:**
- **Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** No information available
- **Vapor pressure at 20 °C (68 °F):** 16 hPa (12 mm Hg)
- **Vapor pressure at 50 °C (122 °F):** 77 hPa (57.8 mm Hg)
- **Density at 20 °C (68 °F):** 1.05 g/cm<sup>3</sup> (8.76225 lbs/gal)
- **Relative density:** No information available

- **Other information**
- **Appearance:**
- **Form:** Liquid
- **Important information on protection of health and environment, and on safety:**
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Molecular weight** 60.05 g/mol

## 10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:**  
Possibility of hazardous reactions on contact with:  
strong oxidizing agents  
metals  
Bases  
amines  
Vapors may form flammable and explosive mixtures with air.
- **Conditions to avoid:** Avoid high temperatures, flames and sparks
- **Incompatible materials:**  
Avoid contact with:  
Oxidizing agents  
Metals  
Bases  
Amines
- **Hazardous decomposition products:** In case of fire: see section 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	3,310 mg/kg (rat)
Inhalative	LC50/4h	40 mg/l (rat)

- **on the skin:** Causes severe skin burns and eye damage.
- **Additional toxicological information:**
- **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.

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## 12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** BOD / ThBOD (5 d) = 83%
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 1 (Assessment by list): slightly hazardous for water

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Dispose of in accordance with official regulations.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**  
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>   | UN2789  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | Acetic acid, glacial<br>2789 ACETIC ACID, GLACIAL<br>ACETIC ACID, GLACIAL   |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>   | <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | 8 Corrosive substances<br>8, 3  |
| <ul style="list-style-type: none"> <li>· <b>ADR</b></li> </ul>  | <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class:</b></li> </ul>   | 8 Corrosive substances  |

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· <b>Label:</b>	8+3
· <b>IMDG</b>	
 	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8/3
· <b>IATA</b>	
 	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8 (3)
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Corrosive substances
· <b>Hazard identification number (Kemler code):</b>	83
· <b>EMS Number:</b>	F-E,S-C
· <b>Segregation groups</b>	(SGG1) Acids
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
· <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 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml 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**  
No further relevant information available.
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65** Substance is not listed.
- **Chemicals known to cause cancer:** Substance is not listed.

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- **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.
  
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** 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**  
Flammable liquid and vapor.  
Causes severe skin burns and eye damage.
- **Precautionary statements**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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.

### 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:** Product Safety Department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 10/24/2024 / -
- **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  
PBT: persistent, bioaccumulative, toxic substance (REACH)  
vPvB: very persistent, very bioaccumulative substance (REACH)  
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
CLP: Regulation on classification, labelling and packaging of substances and mixtures  
bw: body weight  
ADR: Accord relatif au transport international 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  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: 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  
Flammable Liquids 3: Flammable liquids – Category 3  
Skin Corrosion 1A: Skin corrosion/irritation – Category 1A