

## Safety Data Sheet acc. to OSHA HCS

Printing date 03/30/2023

Reviewed on 03/30/2023

### 1 Identification

- **Product identifier**
- **Formule moléculaire** C<sub>2</sub> H<sub>4</sub> O<sub>2</sub>
- **Trade name:** *Acetic acid*
- **Article number:** CH0016
- **CAS Number:**  
64-19-7
- **EC number:**  
200-580-7
- **Index number:**  
607-002-00-6
- **Application of the substance / the mixture** Chemicals products for laboratory
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
CARLO ERBA REAGENTS  
Chaussée du Vexin  
Parc d'Affaires des Portes - BP616  
27106 VAL DE REUIL Cedex  
Téléphone: +33 (0)2 32 09 20 00  
Télécopie: +33 (0)2 32 09 20 20
- **Information department:**  
Q.A / Normative  
email: MSDS\_CER-SDS@cer.dgroup.it
- **Emergency telephone number:**  
US 911  
CHEMTREC 1-800-424-9300 (Staffed 24/7)  
American Association of Poison Control Centers 1-800-222-1222 (Staffed 24/7)

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable liquid and vapor.



GHS05 Corrosion

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.

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*Causes severe skin burns and eye damage.*

· **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*

*Wear protective gloves / eye protection / face protection.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*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.*

*Immediately call a poison center/doctor.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

· **Classification system:**

· **NFPA ratings (scale 0-4)**



Health = 3

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**

CAS: 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.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

*Seek immediate medical advice.*

*If skin irritation continues, consult a doctor.*

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

*Drink copious amounts of water and provide fresh air. Immediately call a doctor.*

*Call immediately a doctor.*

*Rinse out mouth and then drink plenty of water.*

· **Information for doctor:** Show the doctor this Material Safety Data Sheet.

· **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.*

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### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Alcohol resistant foam
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Can form explosive gas-air mixtures.  
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Keep away from ignition sources  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Dilute with plenty of water.  
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).  
Ensure adequate ventilation.  
Use neutralizing agent.  
Dispose contaminated material as waste according to section 13.
- **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**  
Store in cool, dry place in tightly closed receptacles.  
Ensure good ventilation/exhaustion at the workplace.  
Only handle and refill product in closed systems.  
Pneumatic conveyance only with nitrogen.  
When diluting, always stir the product into standing water, not water to product.
- **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
  - Store in a cool location.
  - Provide acid-resistant floor.
  - Provide floor trough without outlet.
  - Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:**
  - Do not keep in contact with acids.
  - Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **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 section 7.
- **Control parameters**

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

**CAS: 64-19-7 Acetic acid**

<i>PEL</i>	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
<i>REL</i>	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm
	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
<i>TLV</i>	Short-term value: 15 ppm
	Long-term value: 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:**
  - The usual precautionary measures for handling chemicals should be followed.
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
- **Recommended filter device for short term use:**
  - Combination filter A-P3
  - Combination filter E-P3
- **Protection of hands:**
  - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

Rubber gloves

- **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.  
PVC gloves

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**· 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:**

The penetration time has to be at least 480 minutes

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.5$  mm

Natural rubber, NR

Recommended thickness of the material:  $\geq 0.5$  mm

PVC gloves

Recommended thickness of the material:  $\geq 0.5$  mm

**· As protection from splashes gloves made of the following materials are suitable: PVC or PE gloves**
**· Eye protection:**


Tightly sealed goggles

**· Body protection: Apron**
**· Limitation and supervision of exposure into the environment**

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

### 9 Physical and chemical properties

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

<b>General Information</b>	60.05 g
<b>· Appearance:</b>	
<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>· Odor:</b>	Pungent
<b>· Odor threshold:</b>	Not determined.

**· pH-value:** 2.5

**· Change in condition**

<b>Melting point/Melting range:</b>	16.6 °C (61.9 °F)
<b>Boiling point/Boiling range:</b>	104 °C (219.2 °F)
<b>· Flash point:</b>	39 °C (102.2 °F)
<b>· Flammability (solid, gaseous):</b>	Flammable.
<b>· Auto igniting:</b>	485 °C (905 °F)
<b>· Decomposition temperature:</b>	Not determined.
<b>· Ignition temperature:</b>	Not determined.
<b>· Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>· Explosion limits:</b>	
<b>Lower:</b>	4 Vol %
<b>Upper:</b>	17 Vol %
<b>· Vapor pressure at 20 °C (68 °F):</b>	16 hPa (12 mm Hg)
<b>· Vapor pressure (2) at 30 °C (86 °F):</b>	28 hPa (21 mm Hg)
<b>· Density at 20 °C (68 °F):</b>	1.05 g/cm <sup>3</sup> (8.76225 lbs/gal)
<b>· Relative density</b>	Not determined.
<b>· Vapor density</b>	2.1 (air=1 15.5-32.2°C)
<b>· Evaporation rate</b>	Not determined.

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- **Solubility in / Miscibility with Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** -0.17005
- **Viscosity:**
  - Dynamic at 20 °C (68 °F):** 1.24 mPas
  - Kinematic at 25 °C (77 °F):** 1.015 mm<sup>2</sup>/s
- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** See 10.3
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Reacts with various metals.  
Can react violently with oxygen rich (oxidizing) material. Danger of Explosion.  
Reacts with alkali (lyes).
- **Conditions to avoid** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **Incompatible materials:**  
Strong bases.  
reducing products.  
Metals.
- **Hazardous decomposition products:** Carbon monoxide

### 11 Toxicological information

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

Oral	LD50	3,310 mg/kg (rat)
Inhalative	LC50/4 h	40 mg/L (rat)
- **Primary irritant effect:**
  - on the skin:** Caustic effect on skin and mucous membranes.
  - on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):** No further relevant information available.
- **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.

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### 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

EC50/48h	>300.82 mg/l (Daphnia)
EC50	>300.82 mg/L (72h)
LC50/96h	>300.82 mg/l (fishes)
LC50	>300.82 mg/l (fishes) (96h)
LC50/72h	>300.82 mg/l

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Local effects: may change the environmental pH endangering the aquatic life.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Assessment by list): slightly hazardous for water

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.

· **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:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

· **Uncleaned packagings:**

· **Recommendation:**

Disposal must be made according to official regulations.

Wash with solvents to be incinerated.

Packagings that cannot be cleaned 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, IMDG, IATA**

UN2789

· **UN proper shipping name**

· **DOT, IATA**

Acetic acid, glacial

· **IMDG**

ACETIC ACID, GLACIAL

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


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

**· IMDG**


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

**· IATA**


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

**· Packing group**

· **DOT, IMDG, IATA** II

**· Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user** Warning: Corrosive substances

· **Hazard identification number (Kemler code):** 83

· **EMS Number:** F-E,S-C

· **Segregation groups** (SGG1) Acids

· **Stowage Category** A

· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.  
 SG49 Stow "separated from" SGG6-cyanides

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

Not applicable.

**· Transport/Additional information:**
**· IMDG**

· **Limited quantities (LQ)** IL

· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**· UN "Model Regulation":**

UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

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### 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.
  - **SARA Section 313 (specific toxic chemical listings)** Substance is not listed.
  - **TSCA (Toxic Substances Control Act)** ACTIVE
  - **Hazardous Air Pollutants** Substance is not listed.
  - **Prop 65 - Chemicals known to cause cancer** Substance is not listed.
  - **Carcinogenicity categories**
  - **EPA (Environmental Protection Agency)** Substance is not listed.
  - **TLV (Threshold Limit Value)** Substance is not listed.
  - **MAK (German Maximum Workplace Concentration)** Substance is not listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
  - **National regulations:**
  - **Technical instructions (air):**
- | Class | Share in % |
|-------|------------|
| II    | 50-100     |
- **Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.
  - **Chemical safety assessment:** A Chemical Safety Assessment has 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:** Q.A / Normative
- **Date of preparation / last revision** 03/30/2023
- **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 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)  
 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  
 IMO: International Maritime Organization  
 Flammable Liquids 3: Flammable liquids – Category 3  
 Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
- **Sources**  
 Globally Harmonized System, GHS  
 ADR/RID, IMDG, IATA  
 PubChem: an open chemistry database at the National Institutes of Health (NIH)  
 ECHA: European Chemicals Agency
- **\* Data compared to the previous version altered.**