

Safety Data Sheet
acc. to OSHA HCS

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Printing date 04/20/2018
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Version number: 4

1 Identification

- **Product identifier**
- **Trade name:** Acetic Acid 60 %
- **Article number:** 217076
- **Application of the substance / the mixture** 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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2 Hazard(s) identification

- **Classification of the substance or mixture**
Flam. Liq. 4 H227 Combustible liquid.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Acetic acid
- **Hazard statements**
H227 Combustible liquid.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
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.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center/doctor.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 2
Reactivity = 0

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US

Trade name: Acetic Acid 60 %

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· **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|---|----------------|
| HEALTH | 3 | Health = 3 |
| FIRE | 2 | Fire = 2 |
| REACTIVITY | 0 | Reactivity = 0 |

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

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** aqueous solution

· **Dangerous components:**

| | | |
|---------|-------------|-----------|
| 64-19-7 | Acetic acid | >50-<100% |
|---------|-------------|-----------|

4 First-aid measures

- **Description of first aid measures**
- **General information:** Involve doctor immediately.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
make victim drink water (maximum of 2 drinking glasses)
Call a doctor immediately.
- **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:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
Vapours are heavier than air and may spread along floors.
In case of fire, the following can be released:
CO, CO₂
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Contain escaping vapours with water.

— US —
(Contd. on page 3)

Trade name: Acetic Acid 60 %

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
- **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.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Clean up affected area.
- **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:

| | | |
|---------|-------------|-------|
| 64-19-7 | Acetic acid | 5 ppm |
|---------|-------------|-------|

• PAC-2:

| | | |
|---------|-------------|--------|
| 64-19-7 | Acetic acid | 35 ppm |
|---------|-------------|--------|

• PAC-3:

| | | |
|---------|-------------|---------|
| 64-19-7 | Acetic acid | 250 ppm |
|---------|-------------|---------|

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **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:** 8 A
- **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 ³ , 10 ppm |
|-----|--|

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| | |
|-----|---|
| REL | Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm |
| TLV | Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 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.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Short term filter device:
Filter A
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.
- **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **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:**
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min
- **As protection from splashes gloves made of the following materials are suitable:**
Recommended thickness of the material: ≥ 0.11 mm
Natural rubber, NR
Value for the permeation: Level ≥ 480 min
- **Eye protection:**



Tightly sealed goggles

- **Body protection:**
Use protective suit.
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

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(Contd. on page 5)

Trade name: Acetic Acid 60 %

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9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|-----------------|-----------------|
| Form: | Fluid |
| Color: | Colorless |
| Odor: | Characteristic |
| Odor threshold: | Not determined. |

· pH-value: Not determined.

· Change in condition

| | |
|------------------------------|-------------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | >100 °C (>212 °F) |

· Flash point: >61 °C (>141.8 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: >500 °C (>932 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

| | |
|--------|----------|
| Lower: | 4 Vol % |
| Upper: | 16 Vol % |

· Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

| | |
|------------|-----------------|
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |

· Solvent content:

| | |
|-------------------|-----------|
| Organic solvents: | 50-79.5 % |
| Water: | 20.5 % |
| VOC content: | 50-79.5 % |

Solids content: 0.0 %

· 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

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- **Additional information:**
Incompatible with:
metals
Forms explosive mixtures with air on intense heating.

11 Toxicological information

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

| Components | Type | Value | Species |
|----------------------------|----------|----------------------|---------|
| 64-19-7 Acetic acid | | | |
| 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.
Strong irritant with the danger of severe eye injury.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Irritant
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) |
| None of the ingredients is listed. |
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |
| · OSHA-Ca (Occupational Safety & Health Administration) |
| None of the ingredients is listed. |

12 Ecological information

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

| Type of test | Effective concentration | Method | Assessment |
|----------------------------|--|--------|------------|
| 64-19-7 Acetic acid | | | |
| 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.

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Trade name: Acetic Acid 60 %

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Water hazard class 1 (Self-assessment): 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.

• **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**

UN2790

• **UN proper shipping name**

• **DOT, ADR**

Acetic acid solution

• **IMDG, IATA**

ACETIC ACID SOLUTION

• **Transport hazard class(es)**

• **DOT**



• **Class**

8 Corrosive substances

• **Label**

8

• **ADR**



• **Class**

8 (C3) Corrosive substances

• **Label**

8

• **IMDG, IATA**



• **Class**

8 Corrosive substances

• **Label**

8

• **Packing group**

• **DOT, ADR, IMDG, IATA**

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Trade name: Acetic Acid 60 %

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- | | |
|--|---|
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Warning: Corrosive substances |
| · Danger code (Kemler): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Acids |
| · Stowage Category | A |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Excepted quantities (EQ) | Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| · IMDG | |
| · Limited quantities (LQ) | 1L |
| · 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 2790 ACETIC ACID SOLUTION, 8, II |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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Trade name: **Acetic Acid 60 %**

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• **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS05

• **Signal word** Danger

• **Hazard-determining components of labeling:**

Acetic acid

• **Hazard statements**

H227 Combustible liquid.

H314 Causes severe skin burns and eye damage.

• **Precautionary statements**

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.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a poison center/doctor.

• **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:** Dept. Compliance

• **Date of preparation / last revision** 04/20/2018 / 3

• **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

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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. 4: Flammable liquids – Category 4

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1