



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 07.09.2016

Revision: 07.09.2016

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Acetic Acid
- **Synonyms:** Glacial Acetic Acid, GAA, Ethanoic acid, Methanecarboxylic acid
- **CAS Number:**
64-19-7
- **Relevant identified uses of the substance or mixture and uses advised against :**
- **Identified/Recommended uses:**
Raw Material for:
Chemical for synthesis
acetic anhydride, cellulose acetate, vinyl acetate monomer, acetic esters, chloroacetic acid; plastic products; pharmaceuticals, dyes, insecticides, photographic chemicals and the like; emulsion coagulant; oil acidification agent; textile printing.
- **Uses advised against** Food additives
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Chang Chun Petrochemical Co. Ltd.
7th Fl., No. 301, SongKiang Rd.
Taipei City, 10483, TAIWAN
Tel: +886-2-2500-1800 Fax: +886-2-2501-8018
WWW.CCP.COM.TW
- **Further information obtainable from:** SDS-info@ccp.com.tw
- **Emergency telephone number:** During normal opening times: +886 2 2500 - 1800 (8:30-17:30; GMT+8)

2 Hazards identification

- **Classification of the substance or mixture:**

Flam. Liq. 3	H226	Flammable liquid and vapour.
Met. Corr.1	H290	May be corrosive to metals.
Acute Tox. 5	H303	May be harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Aquatic Acute 3	H402	Harmful to aquatic life.
- **Label elements:**
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms:**



GHS02 GHS05 GHS07

- **Signal word:** Danger
- **Hazard-determining components of labelling:**
acetic acid
- **Hazard statements:**
Flammable liq.
May be corrosive to metals.
May be harmful if swallowed.
Harmful in contact with skin or if inhaled.

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Causes severe skin burns and eye damage.

Harmful to aquatic life.

- **Precautionary statements:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

- **Chemical characterisation: Substances**

- **CAS No. Description**

64-19-7 acetic acid \geq 99.85%

- **Identification number(s)**

· **EC number:** 200-580-7

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:** Clean with water and soap. If possible, also wash with polyethylene glycol 400.

- **After eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Seek immediate medical advice.

- **After swallowing:**

Drink plenty of water and provide fresh air. Call for a doctor immediately.

Do not induce vomiting; call for medical help immediately.

- **Most important symptoms and effects, both acute and delayed**

Irritation and corrosion

Causes severe burns.

Burning sensation

Risk of corneal clouding.

Risk of blindness!

Nausea

Bronchitis

gastric spasms

Vomiting

Shortness of breath

Circulatory collapse

Shock

- **Indication of any immediate medical attention and special treatment needed**

Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5 Firefighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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- **Special hazards arising from the substance or mixture**

Combustible.
 Can form explosive gas-air mixtures.
 Vapours are heavier than air and may spread along floors.
 Pay attention to flashback.
 Fire may cause evolution of:

Acetic acid vapours
 Carbon monoxide (CO)
 Carbon dioxide (CO₂)

- **Advice for firefighters**

- **Protective equipment:**

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).

Avoid contact with skin, eye, and clothing.

- **Additional information**

Cool endangered receptacles with water spray.
 Collect contaminated fire fighting water separately. It must not enter the sewage system.
 Do not inhale explosion gases or combustion gases.

6 Accidental release measures

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

Do not breathe dust/fume/gas/mist/vapours/spray.
 Use respiratory protective device against the effects of fumes/dust/aerosol.
 Ensure adequate ventilation
 Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

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).
 Use neutralising agent.
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.

- **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

- **Handling:**

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
 Wear protective gloves/protective clothing/eye protection/face protection.

- **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.

- **Storage:**

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

Store in cool, dry place in tightly closed receptacles.
 Suitable material for receptacles and pipes: Stainless steel.

- **Further information about storage conditions:**

Store at 18 °C to 33 °C

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Keep container tightly sealed.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:**

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines.

Local exhaust ventilation may be necessary for some operations.

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

- **Control parameters**

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

64-19-7 acetic acid

PEL (USA)	Long-term value: 25 mg/m ³ , 10 ppm
REL (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
IOELV (EU)	Long-term value: 25 mg/m ³ , 10 ppm
TLV (Korea)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm

- **Derived No Effect Levels (DNELs):**

- **Workers:**

DNEL (inhalation, chronic effects local): 25 mg/m³

DNEL (dermal, acute effects local): 25 mg/m³ mg/kg bw/day

- **Consumers:**

DNEL (inhalation, chronic effects local): 25 mg/m³

DNEL (inhalation, acute effects local): 25 mg/m³

- **Predicted No Effect Concentrations (PNEC):**

PNEC (fresh water): 3,058 mg/l with assessment factor of 100

PNEC (marine water): 0,3058 mg/l with assessment factor of 1000

PNEC (intermittent release): 30,58 mg/l with assessment factor of 10

PNEC (sewage treatment plant; STP): 85 mg/l with assessment factor of 10

PNEC (freshwater sediments): 11,36 mg/kg sediment dw with assessment factor of N/A

PNEC (marine sediments): 1,136 mg/kg sediment dw with assessment factor N/A

PNEC (soil): 0,47 mg/kg soil dw with assessment factor of N/A

- **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.

Be sure to clean skin thoroughly after work and before breaks.

Ensure that washing facilities are available at the work place.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Short term filter device:

Filter A/P2

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Protection of hands:

Protective gloves

The selected protective gloves have to satisfy the specifications of standard EN 374 or its equivalent. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

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

Full Contact:

Butyl rubber, BR

Splash Contact:

Natural latex

Recommended thickness of the material: $\geq 0,7$ mm

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

Full Contact:

Break through time: > 480 min

Splash Contact:

Break through time: > 30 min

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

Safety glasses with side shields conforming to EN166, ANSI 87.1-2010, or equivalent.

Body protection:

Flame retardant antistatic protective clothing

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9 Physical and chemical properties

Information on basic physical and chemical properties**General Information****Appearance:****Form:**

Liquid

Colour:

Colourless

Odour:

Pungent

Odour threshold:

Not determined.

pH-value at 20 °C:

2,5

Change in condition**Melting point/Melting range:**

16,6 °C

Boiling point/Boiling range:

118 °C

Flash point:

40 °C

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· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	485 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Not determined.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	4 Vol %
Upper:	17 Vol %
· Vapour pressure at 20 °C:	16 hPa
· Density at 20 °C:	1,05 g/cm ³
· Relative density	Not determined.
· Vapour 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:	100,0 %
VOC (EC)	100,00 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity:**
When properly handled and stored, no dangerous reaction is known.
Vapour/air-mixtures are explosive at intense warming.
- **Chemical stability:** This product is stable under prescribed use and storage.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions:**
Risk of ignition or formation of inflammable gases or vapours with:
Metals
Mild steel
Iron
Zinc
Magnesium

Violent reaction possible with:
strong alkalis
Aldehyde
Peroxides
Acetaldehyde
alcohols
Alkali hydroxide.
nonmetallic halides
chromosulfric acid

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ethanolamine
 chlorosulfonic acid
 Anhydride.
 Nitric acid
 halogen-halogen compounds
 Potassium hydroxide

Risk of explosion with:
 Hydrogen peroxide
 Strong oxidizing agents
 Peroxi compounds
 Chromium (VI) oxides
 perchloric acid
 phosphorus halides
 potassium permanganate

Possible formation of:
 Hydrogen

· **Conditions to avoid:**

Protect from heat. Keep ignition sources away.
 Avoid static discharge.

· **Incompatible materials:** various metals

· **Hazardous decomposition products:** Carbon monoxide (CO) and carbon dioxide (CO₂)

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity**

Harmful in contact with skin.
 Harmful if inhaled.
 May be harmful if swallowed.

· **LD/LC50 values relevant for classification:**

64-19-7 acetic acid

Oral	LD50	3310 mg/kg (rat)
Dermal	LD50	1060 mg/kg (rabbit)
Inhalative	LC50/4 h	11,4 mg/l (rat)

· **Skin corrosion/irritation:**

Causes severe skin burns and eye damage.
 Rabbit: corrosive to the skin (OECD Guideline 404)

· **Serious eye damage/eye irritation:**

Causes serious eye damage.
 Rabbit: corrosive to the eye (OECD 405)

· **Respiratory or skin sensitization:** Not classified based on available data.

· **Germ Cell Mutagenicity:**

Not classified based on available data.
 In-vitro genotoxicity (non-mammalian cells): negative (OECD 473)

· **Carcinogenicity:** Not classified based on available data.

· **Reproductive Toxicity:** Not classified based on available data.

· **Specific Target Organ Toxicity - Single Exposure (STOT SE):** Not classified based on available data.

· **Specific Target Organ Toxicity - Repeated Exposure (STOT RE):**

Not classified based on available data.

· **Aspiration Hazard:** Not classified based on available data.

· **Primary irritant effect:**

· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.

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- **Serious eye damage/irritation** Strong caustic effect.
- **Respiratory or skin sensitisation** No sensitising 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.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**
Harmful to aquatic life.
LC50 (96hr, rainbow trout): 75-88 mg/L (OECD N/A; TW Min. of Labor)
EC50 (Daphnia Magna, 24hr): 32 mg/L (OECD N/A; TW Min. of Labor)
Source: External (M)SDS
- **Persistence and degradability**
Easily biodegradable
Degradation : 96% (20d, OECD N/A)
- **Bioaccumulative potential**
Bioaccumulation is not expected.
Bioconcentration Factor (BCF) : <1
Partition coefficient, n-octanol/water (log Pow) : -0,17
- **Mobility in soil** Henry's Law Constant (H) : 0,21 Pa m³ /mol
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (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 sewage water or drainage ditch undiluted or unneutralised.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
Hand over to hazardous waste disposers.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Any disposal method should also comply with national, regional, provincial, and local laws.
- **Uncleaned packaging:**
- **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Empty containers may still contain hazardous residue.
Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN2789
- **UN proper shipping name**
- **ADR** 2789 ACETIC ACID, GLACIAL

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· **IMDG, IATA** ACETIC ACID, GLACIAL
 · **Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 8 Corrosive substances.
 · **Label** 8+3
 · **Packing group**
 · **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

· **Transport/Additional information:**

· **ADR**
 · **Limited quantities (LQ)** 1L
 · **Transport category** 2
 · **Tunnel restriction code** D/E
 · **UN "Model Regulation":** UN2789, ACETIC ACID, GLACIAL, 8 (3), II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Status of global inventories:**
 All component(s) within this product is listed or exempted from the following country's chemical inventory:
 USA – TSCA
 Australia – AICS
 Canada – DSL
 China – IECSC
 EU – EINECS/NLP
 Japan – ENCS
 Korea – KECI
 New Zealand – NZIoC
 Philippines – PICCS
 Taiwan – TCSI
 Mexico - INSQ
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

- **Abbreviations and acronyms:**
 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
 IATA: International Air Transport Association
 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)
 VOC: Volatile Organic Compounds (USA, EU)
 DNEL: Derived No-Effect Level (REACH)

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PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids – Category 3
 Met. Corr. 1: Corrosive to metals – Category 1
 Acute Tox. 5: Acute toxicity – Category 5
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

Sources

HSDB (Hazardous Substances Data Bank)

Most toxicological and eco-toxicological data are obtained from European Chemical Agency (ECHA)'s public dissemination website.

Acetic Acid (CAS 64-19-7): <https://echa.europa.eu/registration-dossier/-/registered-dossier/15549>

General Disclaimers:

CCP Group recommends that all the users/customers/recipients to study this Safety Data Sheet (SDS) carefully and understand all the data or any potential hazards associated with this product. Please consult with appropriate expert if necessary. The information herein is provided in good faith and is believed to be accurate on the date of issue. No warranty, expressed or implied, is given. It is the customer's/user's responsibility to ensure that they are complying with local, regional, state, provincial, and/or national laws in using this product, as regulatory requirement may differ at each level. It is also the customer's/user's responsibility to determine the necessary condition required for using this product safely, as actual operating or usage conditions are beyond CCP Group's control. CCP Group will not be responsible for any SDS obtained from elsewhere other than from CCP Group. If you are unsure whether the SDS you have is current or have obtained the SDS from another source; please contact us to obtain the latest version.

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