



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 12.12.2014

Revision: 12.12.2014

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

- **Product identifier**
- **Trade name:** Acetic Acid
- **Synonyms:** Galacial 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, SongJiang Rd.
Taipei City, 10483, TAIWAN
Tel: +886-2-2500-1800 Fax:+886-2-2501-8018
WWW.CCP.COM.TW
- **Further information obtainable from:** Product safety department
- **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.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Acute Tox. 5 H303 May be harmful if swallowed.
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 liquid and vapour.
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/sparks/open flames/hot surfaces. - No smoking.

IF ON SKIN (or hair): Remove/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· **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:** 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.

Immediately call a POISON CENTER or doctor/physician.

- **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.

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5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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

- **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.

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- **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
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

- **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
- **PNECs**
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.

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- **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

- **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:

Fluid

Colour:

Colourless

- **Odour:**

Pungent

- **Odour threshold:**

Not determined.

- **pH-value at 20 °C:**

2,5

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- **Change in condition**
 - Melting point/Melting range:** 16,6 °C
 - Boiling point/Boiling range:** 118 °C
- **Flash point:** 40 °C
- **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/cm³
- **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

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Peroxides
 Acetaldehyde
 alcohols
 Alkali hydroxide.
 nonmetallic halides
 chromosulfric acid
 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.

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- **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:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **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.

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- **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
- **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 – ECSI
Mexico - INSQ
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Met. Corr. 1: Corrosive to metals, Hazard Category 1
 Acute Tox. 5: Acute toxicity, Hazard Category 5
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
 : Hazardous to the aquatic environment - AcuteHazard, 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.
<http://apps.echa.europa.eu/registered/data/dossiers/DISS-9d8c7866-b374-5d28-e044-00144f67d249/DISS-9d8c7866-b374-5d28-e044-00144f67d249> DISS-9d8c7866-b374-5d28-e044-00144f67d249.html

· 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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