

S.S Depocular ve Ardiyeciler Koop. 102 Ada 2 Pafta 1.Kat Başakşehir, İSTANBUL

Telefon : 90 – 212 - 675 05 39 pbx

Fax No : 90 – 212 - 675 08 02

Web : www.askimya.com

E-mail : info@askimya.com

ACETIC ACID

1- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product Name : ACETIC ACID

CAS Number : 64-19-7

EINECS number : 200-580-7

Index no : 607-002-00-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Used in the various acetates, acetyl compounds, the production of artificial silk, producing rubber and plastic. Also used in leather and silk print editions and used as a food preservative substance. Used as a solvent for many organic substances. Used in acid compounds which are containing phosphorus and halogen. In addition, used in a lot of commercial chemical synthesis as a common.

1.3 Details of the supplier of the safety data sheet

1.4 Emergency telephone number

Emergency Phone : +90 (226) 353 38 38

2- HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 3)

Skin corrosion (Category 1A)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Flammable. Causes severe burns.

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2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Hazard Pictograms : 

Signal Word : Danger

Hazard statement(s)

H314 : Causes severe skin burns and eye damage.

H226 : Flammable liquid and vapour.

Precautionary statement(s)

P280 : Wear protective gloves.

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 or doctor/physician.

Supplemental Hazard Statements

None.

According to European Directive 67/548/EEC as amended.

Hazard symbol(s) : C



R-phrase(s)

R10 : Flammable.

R35 : Causes severe burns.

S-phrase(s)

S23 : Do not breathe gas/fumes/vapour/spray.

S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards : None.

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3- COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Glacial acetic acid
Formula : C₂H₄O₂
Molecular Weight : 60,05 g/mol

Acetic Acid			
CAS-No.	EC-No.	Index-No.	%
64-19-7	200-580-7	607-002-00-6	>99,5

4- FIRST AID MEASURES

4.1 Description of first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion,

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opacification, iritis, conjunctivitis, and possible blindness., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed

No data available

5- FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6- ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

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7- HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive.

7.3 Specific end uses

No data available

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Occupational Exposure Limits:

OSHA (- Final PELs) : 10 ppm TWA; 25 mg/m³ TWA

ACGIH (TLV) : 10 ppm TWA; 25 mg/m³ TWA; 15 ppm STEL; 37 mg/m³ STEL

NIOSH : 10 ppm TWA; 25 mg/m³ TWA; 15 ppm STEL; 37 mg/m³ STEL

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye/Face protection:

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection:

Complete suit protecting against chemicals, 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

9.1 Information on basic physical and chemical properties

Form	: Liquid
Odour	: Pungent
Colour	: Colourless
pH	: 2,4 at 60,05 g/l
Melting point	: 16,2 °C - lit.
Initial boiling point and boiling range	: 117 - 118 °C - lit.
Flash point	: 40,0 °C - closed cup
Upper explosion limit	: 19,9 %(V)
Lower explosion limit	: 4 %(V)
Vapour pressure	: 73,3 hPa at 50,0 °C, 15,2 hPa at 20,0 °C
Relative density	: 1,049 g/cm ³ at 25 °C
Water solubility	: Completely miscible
Partition coefficient: n-octanol/water	: log Pow: -0,17
Autoignition temperature	: 485,0 °C

9.2 Other safety information

Surface tension	: 28,8 mN/m at 10,0 °C
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10- STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable at room temperature in closed containers under normal storage and handling conditions.

10.3 Possibility of hazardous reactions

Has not been reported.

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10.4 Conditions to avoid

Incompatible materials, ignition sources, excess heat. Reacts with most common metals to produce hydrogen. Oxidizing agents, acids, alkalies, chromic acid, peroxides. Alcohols. Sparks or flame. Amines.

10.5 Incompatible materials

Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols

10.6 Hazardous decomposition products

Carbon monoxide, carbon dioxide.

11- TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 3.310 mg/kg

LC50 Inhalation - mouse - 1 h - 5620 ppm

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Blood:Other changes.

LD50 Dermal - rabbit - 1.112 mg/kg

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - rabbit - Corrosive to eyes

Respiratory or skin sensitization

May cause sensitization by skin contact

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

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Potential health effects

- Inhalation : Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
- Ingestion : May be harmful if swallowed. Causes burns.
- Skin : Harmful if absorbed through skin. Causes skin burns.
- Eyes : Causes eye burns.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: AF1225000

12- ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 - Pimephales promelas (fathead minnow) - 79 - 88 mg/l - 96 h

LC50 - Lepomis macrochirus - 75 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h

12.2 Persistence and degradability

Biodegradability

aerobic - Exposure time 30 d

Result: 99 % - Readily biodegradable

Remarks: Expected to be biodegradable

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

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12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Harmful to aquatic life.

Additional ecological information : No data available

Biochemical Oxygen Demand (BOD) : 880 mg/g

13- DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14- TRANSPORT INFORMATION

14.1 UN-Number

ADR/RID: 2789

IMDG: 2789

IATA: 2789

14.2 UN proper shipping name

ADR/RID : ACETIC ACID, GLACIAL

IMDG : ACETIC ACID, GLACIAL

IATA : Acetic acid, glacial

14.3 Transport hazard class(es)

ADR/RID: 8 (3)

IMDG: 8 (3)

IATA: 8 (3)

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for users

No data available

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15- REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

no data available

16- OTHER INFORMATION

Text of H-code(s) and R-phrase(s)

Flammable liquids (Category 3)

Skin corrosion (Category 1A)

H314 : Causes severe skin burns and eye damage.

H226 : Flammable liquid and vapour.

C : Corrosive.

R10 : Flammable.

R35 : Causes severe burns.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety data sheet only contains safety-relevant information and does not replace any product information or product specification.