



SAFETY DATA SHEET

99.85%

ACETIC ACID

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: Acetic Acid
Product No.: A
CAS-No.: 64-19-7
EC No.: 200-580-7
REACH: 01-2119475328-30
Synonyms: Ethanoic acid, Ethylic acid, Methanecarboxylic acid, Vinegar acid, Glacial acetic acid
Chemical Formula: $C_2H_4O_2$

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: Chemical intermediate
Solvent
In Food industry: additive
Laboratory chemical
Photographic chemical

Recommended use: Laboratory chemicals

For professional use only

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: F; R10, C; R35

Classification – EC 1272/2008: Flammable liquids; Category 3 (H226)
Corrosive to metals; Category 1 (H290)
Skin corrosion/irritation; Category 1A (H314)

2.2. LABEL ELEMENTS



SIGNAL WORDS

Danger

RISK PHRASES

R10 Flammable
R35 Causes severe burns

HAZARD PHRASES

H226 Flammable liquid and vapour
H290 May be corrosive to metals
H314 Causes severe skin burns and eye damage

PROTECTION PHRASES

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 Wash hand thoroughly after handling
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
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

**SAFETY PHRASES**

None.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

67/548/EEC/1999/45/EC

Composition information – main constituents

Substance name	Mol. Formula	REACH	Typical conc. (%w/w)	EINECS No.	CAS-No.	Classification
Acetic Acid	C ₂ H ₄ O ₂	01-2119475328-30	99.85%	200-580-7	64-19-7	F; R10, C; R35

EC 1272/2008

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SECTION 4: FIRST AID MEASURES**4.1. DESCRIPTION OF FIRST AID MEASURES**

First-aid measures general: Consult a physician when you feel unwell. Show this safety data sheet to the doctor in attendance.

Inhalation: Remove victim to fresh air immediately and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Get medical attention if any discomfort continues.

Skin contact: Remove contaminated clothing and shoes. Rinse skin with water. If skin irritation persists, call a physician.



Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: May causes sore throat, cough, burning sensation, shortness of breath, labored breathing.

Ingestion: Harmful if swallowed. Abdominal pain, burning sensation, diarrhea, shock or collapse, sore throat or vomiting.

Skin contact: May causes pain, redness, burns.

Eye contact: Redness, pain, burns, loss of vision.

It has an irritating and corrosive effect. Symptoms may be delayed and may be aggravated.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Adjust extinguishing media to the surrounding fire. Use alcohol resistant foam, dry powder, carbon dioxide (CO₂), water spray or sand.

Unsuitable extinguishing media: Do not use water jet.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

The product is flammable. Thermal decomposition can lead to release of irritating gases and vapours: carbon monoxide (CO), carbon dioxide (CO₂). Keep product and empty container away from heat and other sources of ignition.

5.3. ADVICE FOR FIRE-FIGHTERS

As in any fire, wear self-contained breathing apparatus pressure-demand (SCBA) and full protective clothing. The chemical is corrosive on contact.



SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Remove all sources of ignition. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area. Remove all ignition sources and open flames. No smoking. Keep containers closed. Wash contaminated clothes. For personal protection see section 8.1.

6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Notify authorities if liquid enters sewers or public waters.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite or kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust and spilling. Do not inhale dust/smoke/mist. Ensure adequate ventilation of the working area. Wear personal protective equipment. Avoid contact with eyes and skin. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products. Not smoke. Remove contaminated clothing and shoes. Avoid the formation or spread of mists in the air. Avoid contact with incompatible materials. Wash clothing before re-using. If on skin or hair immediately remove all contaminated clothing and rinse/shower with plenty of water.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep in original tightly closed containers. Keep away from food, drink and animal feeding stuffs. Keep away from children. Avoid direct sunlight, heat and other sources of ignition. Avoid exposure to light and air. Keep away from incompatible materials such as strong bases, strong acids, metals, oxidizing agents, alcohols, amines, reducing agents, alkalis. Avoid combustible materials.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values - UK (Acetic Acid):

CAS NO	Exposure limit	Value	Name of Agent
64-19-7	TWA – 8 Hrs	25 mg/m ³	inhalation
64-19-7	STEL – 15 Min	37 mg/m ³	inhalation

Engineering controls: Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/ lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of the working day.



EYE PROTECTION



FACE SHIELD



RESPIRATOR



PROTECTION WEAR



HAND PROTECTION

Protective equipment: Use protective tight sealing safety goggles or face protection shield goggles (European standard - EN 166), gloves (European standard - EN 374), long sleeved clothing to prevent skin, body and eyes exposure.

Respiratory equipment: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.



Large scale: Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended Filter type: Particulates filter conforming to EN 143 Acid gases filter Type E Yellow conforming to EN14387.

Small scale: Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141.

When RPE is used a face piece Fit Test should be conducted.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Wear impervious protective clothing (long sleeved clothing, chemical resistant apron, anti static boots). Wear appropriate protective work gloves when handling material to prevent skin contact. The glove material has to be impermeable and resistant to the product: recommended are butyl rubber gloves. Protective gloves should be replaced at first signs of wear. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Wash and dry hands.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

Eye/Face protection: Approved chemical safety goggles or face protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Colour:	Colourless
Odour:	Pungent, vinegar-like
Initial boiling point (°C):	No data available
Melting point (°C):	17 °C
Freezing point:	No data available
Relative density:	1.049 g/cm ³
Specific gravity / density:	1040 kg/m ³
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	60.05 g/mol



Auto-ignition temperature: Not applicable
Oxidizing properties: Not available
Decomposition temperature: Not available
Molecular formula: $C_2H_4O_2$

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Acetic Acid is stable under normal conditions of use, storage and transport.
May be corrosive to metals.

10.2. CHEMICAL STABILITY

This product is stable under normal conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

When heated can decompose. May liberate toxic gases.

10.4. CONDITIONS TO AVOID

Keep away from food, drink and animal feeding stuffs. Keep away from children. Avoid direct sunlight, heat and other sources of ignition. Avoid exposure to light and air.

10.5. INCOMPATIBLE MATERIALS

Keep away from incompatible materials such as strong bases, strong acids, metals, oxidizing agents, alcohols, amines, reducing agents, alkalis. Avoid combustible materials.

10.6. HAZARDOUS DECOMPOSITION

The product is flammable. Thermal decomposition can lead to release of irritating gases and vapours: carbon monoxide (CO), carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE	LD50 Oral – Rat – 3310 mg/kg
	LD50 Dermal – Rabbit – 1060 mg/kg
	LC50 Inhalation – Rat – 40 mg/l (4h)



Inhalation:	May causes sore throat, cough, burning sensation, shortness of breath, labored breathing.
Ingestion:	Harmful if swallowed. Abdominal pain, burning sensation, diarrhea, shock or collapse, sore throat or vomiting.
Skin contact:	May causes pain, redness, burns.
Eye contact:	Redness, pain, burns, loss of vision.

It has an irritating and corrosive effect. Symptoms may be delayed and may be aggravated.

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Aquatic Toxicity:

Toxicity to freshwater fish: LC50: > 1000 mg/l, 96h (Oncorhynchus mykiss)

Toxicity to water flea: EC50: 300,82 mg/l, 48h (Daphina magna)

12.2. PERSISTENCE AND DEGRADABILITY

Readily biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

Bioaccumulation is unlikely.

12.4. MOBILITY

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

12.5. RESULTS OF PBT AND vPvB ASSESSMENT

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. OTHER ADVERSE EFFECTS

Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of Acetic Acid should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Should not be released into the environment. Do not discharge into waterways or sewer systems. Mixing with other materials or other alterations to pure product may significantly



change the characteristics of the material. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Dispose of this container to hazardous or special waste collection point. Do not re-use empty containers. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Uncleaned packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

UN number	2789
UN proper shipping name	Acetic acid, glacial or acetic acid solution with more than 80 percent acid, by mass
Transport hazard class(es)	8
Subsidiary Hazard Class	3
Packing group	II

ADR/RID

UN number	2789
UN proper shipping name	Acetic acid, glacial or acetic acid solution with more than 80 percent acid, by mass
Transport hazard class(es)	8
Subsidiary Hazard Class	3
Packing group	II

IATA

UN number	2789
UN proper shipping name	Acetic acid, glacial or acetic acid solution with more than 80 percent acid, by mass
Transport hazard class(es)	8
Subsidiary Hazard Class	3
Packing group	II

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).



Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.

15.2 CHEMICAL SAFETY ASSESSMENT

A Chemical Safety Assessment has not been carried out.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act, 1974; the Control of Substances Hazardous to Health Regulations, 1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.