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1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

1.1 Product identifier

Product name:	Acetic acid 80 %
Registration number (REACH):	not relevant (mixture)
Index number in CLP Annex VI:	607-002-00-6
EC number:	200-580-7
CAS number:	64-19-7
CAS number:	64-19-7
Synonyms/Trade name:	Essigsäure 80%
Unique Formula Identifier (UFI)	3000-50S7-V00Q-UN16

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

Relevant identified uses:	Cleaning compound for optical lenses Laboratory and analytical use
Uses advised against:	Do not use for squirting or spraying. Do not use for private purposes (household). Do not use as food, drink and animal feedingstuffs. Do not use for products which come into contact with foodstuffs.

1.3 Details of the supplier of the safety data sheet

Company:

MCAT GmbH
Raiffeisenstrasse 35
D-78166 Donaueschingen
Tel: +49(0)771-92030800
e-Mail: sicherheit@mcat.de
Emergency Telephone: +49(0)1703802299

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Substance or mixture corrosive to metals (Category 1), H290
Skin corrosion/irritation (Category 1B), H314
Serious eye damage/eye irritation (Category 1), H318
For the full text of the H-Statements mentioned in this Section, see Section 16

The most important adverse physicochemical, human health and environmental effects:

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word: Danger

Pictograms

GHS05

Hazard statement(s)

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage

Precautionary statement(s)

Precautionary statements - prevention

P260	Do not breathe mist/vapours
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

Precautionary statements - response

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture				
Name of substance	**Identifier**	**Wt%**	**Classification acc. to GHS**	**Pictograms**
Acetic acid	CAS No: 64-19-7 EC No: 200-580-7 Index No: 607-002-00-6 REACH Reg. No: 01-2119475328-30-xxxx	75-85	Flam. Liq. 3 / H226 Skin Corr. 1A / H314 Eye Dam. 1 / H318	

Specific concentration limits:
Skin Corr. 1A; H314: C ≥ 90 %
Skin Corr. 1B; H314: 25 % ≤ C < 90 %
Skin Irrit. 2; H315: 10 % ≤ C < 25 %
Eye Dam. 1; H318: C ≥ 25 %
Eye Irrit. 2; H319: 10 % ≤ C < 25 %

4. FIRST AID MEASURES

4.1 Description of first aid measures

General notes: Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation:	Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.
Following skin contact:	After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.
Following eye contact:	In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.
Following ingestion:	Rinse mouth immediately and drink plenty of water. Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

4.2 Most important symptoms and effects, both acute and delayed
Following inhalation: Irritant effects, Cough, pain, choking, and breathing difficulties,
Following skin contact: Causes severe burns, Causes poorly healing wounds,
After eye contact: Risk of serious damage to eyes, Risk of blindness,
Following ingestion: Corrosion, Gastric perforation

4.3 Indication of any immediate medical attention and special treatment needed
none

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Co-ordinate firefighting measures to the fire surroundings
Water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO_2)
Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air at elevated temperatures.
Hazardous combustion products
Carbon monoxide (CO), Carbon dioxide (CO_2), May produce toxic fumes of carbon monoxide if burning. Fire may cause evolution of: Acetic acid vapours.

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions

Keep away from drains, surface and ground water. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory). Handle and open container with care. Clear contaminated areas thoroughly.

Measures to prevent fire as well as aerosol and dust generation

Keep away from sources of ignition - No smoking.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15-25 °C

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)										
Country	Name of agent	CAS number	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Source
EU	acetic acid	64-19-7	IOELV	10	25	20	50			2017/164/EU

Notation:
Ceiling-C: Ceiling value is a limit value above which exposure should not occur
STEL: Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA: Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection. Wear face protection.

Skin protection

Hand protection: Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent con- tact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

Type of material:	Butyl caoutchouc (butyl rubber)
Material thickness:	0,7 mm
Breakthrough times of the glove material:	>480 minutes (permeation: level 6)
Other protection measures:	Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Flame-retardant protective clothing.

Respiratory protection


Respiratory protection necessary at: Aerosol or mist formation. Type: E (against acidic gases like sulphur dioxide or hydrogen chloride, colour code: Yellow).

Environmental exposure controls

Keep away from drains, surface- and ground water.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	stinging
Melting point/freezing point:	< -7 °C
Boiling point or initial boiling point and boiling range:	> 100 °C
Flammability:	this material is combustible, but will not ignite readily
Lower and upper explosion limit:	148 g/m³ - 430 g/m (4 vol% - 17 vol%)
Flash point:	> 65 °C
Auto-ignition temperature:	485 °C (anhydrous)
Decomposition temperature:	not relevant
pH (value) :	< 2 (20 °C)
Kinematic viscosity:	not available
Dynamic viscosity:	not available
Water solubility:	miscible in any proportion
Partition coefficient n-octanol/water (log value):	not available
Vapour pressure:	20,79 hPa at 25 °C
Density:	1,06 - 1,07 g/cm³ at 15 °C
Relative vapour density:	2,07 at 15 °C (air = 1)
Particle characteristics:	not relevant (liquid)
Oxidising properties:	none

9.2 Other information

Information with regard to physical hazard classes:	Corrosive to metals: category 1
Miscibility:	completely miscible with water
Temperature class (EU, acc. to ATEX):	T1 Maximum permissible surface temperature on the equipment: 450°C

10. STABILITY AND REACTIVITY

10.1 Reactivity

Substance or mixture corrosive to metals.

If heated: Vapours may form explosive mixtures with air.

10.2 Chemical stability
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions
Danger of explosion: Peroxides, Perchlorates, Hydrogen peroxide, Chromium(VI) oxide, Permanganates, for example potassium permanganate, strong oxidiser,
Violent reaction with: Strong alkali, Aldehydes, Alkali hydroxide (caustic alkali), Alcohols, Nitric acid

10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

10.5 Incompatible materials
different plastics, rubber articles, iron, copper, bronze, brass, different metals, zinc, certain glass coatings
Release of flammable materials with:
Metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Test data are not available for the complete mixture.
Classification procedure: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).
Classification according to GHS (1272/2008/EC, CLP)
Acute toxicity
Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
acetic acid	64-19-7	oral	LD50	3310 mg/kg	rat

Skin corrosion/irritation
Causes severe skin burns and eye damage.
Serious eye damage/eye irritation
Causes serious eye irritation.
Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.
Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.
Carcinogenicity
Shall not be classified as carcinogenic.
Reproductive toxicity
Shall not be classified as a reproductive toxicant.
Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
Shall not be classified as a specific target organ toxicant (repeated exposure).
Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics
If swallowed: danger of perforation of the esophagus and the stomach (strong corrosive effects)
If in eyes: causes burns, Causes serious eye damage, risk of blindness
If inhaled: irritant effects, cough, pain, choking, and breathing difficulties
I**f on skin:** causes severe burns, causes poorly healing wounds
Other information: none

11.2 Endocrine disrupting properties
None of the ingredients are listed.

11.3 Information on other hazards
There is no additional information.

12. ECOLOGICAL INFORMATION
12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture				
Substance	**Endpoint**	**Value**	**Species**	**Exposure time**
acetic acid (CAS 64-19-7)	LC50	> 300,8 mg/l	fish	96 h
acetic acid (CAS 64-19-7)	EC50	> 300,8 mg/l	aquatic invertebrates	48 h
acetic acid (CAS 64-19-7)	ErC50	> 300,8 mg/l	algae	72 h

Biodegradation
Data are not available.

12.2 Persistence and degradability
Degradability of components of the mixture			
Substance	**Process**	**Degradation rate**	**Time**
acetic acid (CAS 64-19-7)	biotic/abiotic	99 %	30 d

12.3 Bioaccumulative potential
Bioaccumulative potential of components of the mixture		
Substance	**BCF**	**Log KOW**
acetic acid (CAS 64-19-7)	3,16	-0,17 (pH value: 7, 25 °C)

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Endocrine disrupting properties
None of the ingredients are listed.

12.7 Other adverse effects
Data are not available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.
Handle contaminated packages in the same way as the substance itself.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

14. TRANSPORT INFORMATION

14.1 UN number:	UN 2790
14.2 UN proper shipping name:	Acetic acid solution
14.3 Transport hazard class(es):	8
14.4 Packing group	II
14.5 Environmental hazards:	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	Provisions for dangerous goods (ADR) should be complied within the premises.
14.7 Maritime transport in bulk according to IMO instruments	The cargo is not intended to be carried in bulk.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

16. OTHER INFORMATION

List of relevant phrases (code and full text as stated in section 2 and 3)

H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

This Health and Safety Information is correct to the best of our knowledge and belief at the data of its publication but we cannot accept liability for any loss, injury or damage which may result from it use. We shall ensure, so far as is reasonably practicable, that any revision of this data sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the data sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled by competent personnel, within a controlled environment.

We welcome any additional information about our product that customers have obtained by personal experience.