

### Safety data sheet according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1 Product identifier

Product name: **KS410 - Acetic Acid 80 % (v/v)**

Catalog number: 56Z041098, 56L041065, 56U041065, 56L041030, 56U041030, AS-K25286-KW, TF-K5288

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

Application of the substance / the preparation: Reagent for water analysis

##### 1.3 Details of the supplier of the safety data sheet

##### Supplier:

Tintometer GmbH  
Schleefstraße 8-12  
44287 Dortmund  
Made in Germany  
www.lovibond.com

phone: +49 231 94510-0  
e-mail: sales@tintometer.de

Tintometer GmbH  
Division AQUALYTIC®  
Schleefstr. 12  
44287 Dortmund  
Made in Germany  
www.aqualytic.de

phone: +49 231 94510-755  
e-mail: sales@aqualytic.de

The Tintometer Limited  
Lovibond® House  
Sun Rise Way  
Amesbury  
Wiltshire SP4 7GR  
United Kingdom

phone : +44 1980 664800  
e-mail: SDS@tintometer.com

##### Informing department:

e-mail: sds@tintometer.de  
Product Safety Department

##### 1.4 Emergency telephone number:

+44 1235 239670  
Languages: English

#### SECTION 2: Hazards identification

##### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Met. Corr. 1 H290 May be corrosive to metals.

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

##### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

**Product name: KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 1)

**Hazard pictograms**


GHS05

**Signal word** Danger

**Hazard-determining components of labelling:**

acetic acid 79 %

**Hazard statements**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

**Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310 Immediately call a doctor.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**2.3 Other hazards**

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures**
**Description:** aqueous solution

**Dangerous components:**

CAS: 64-19-7	acetic acid	Flam. Liq. 3, H226; Skin Corr. 1A, H314	70–80%
EINECS: 200-580-7			
Index No: 607-002-00-6			
Reg.nr.: 01-2119475328-30-XXXX			

**Additional information** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

**4.1 Description of first aid measures**
**General information**

Personal protection for the First Aider!

Instantly remove any clothing soiled by the product.

**After inhalation**

Supply fresh air.

Call a doctor immediately.

**After skin contact**

Instantly rinse with water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

**After eye contact**

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

**After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

Do not induce vomiting; instantly call for medical help.

**4.2 Most important symptoms and effects, both acute and delayed:**

burns

after inhalation:

irritations

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

**Product name: KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 2)

coughing  
breathing difficulty  
damage to the affected mucous membranes possible  
after swallowing:  
strong caustic effect.

sickness

vomiting

Acidosis

cramps

- **Danger**

Danger of system failure.

Danger of pneumonia.

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

If swallowed or in case of vomiting, danger of entering the lungs

Subsequent observation for pneumonia and pulmonary oedema

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

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

combustible

Formation of toxic gases is possible during heating or in case of fire.

acetic acid vapours

- **5.3 Advice for firefighters**

- **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Suppress (knock down) gases/vapours/mists with a water spray jet.

Ambient fire may liberate hazardous vapours.

### SECTION 6: Accidental release measures

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

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

Use breathing protection against the effects of fumes/dust/aerosol.

- **Advice for emergency responders:** Protective equipment: see section 8

- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

- **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

- **Advice on safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Prevent formation of aerosols.

Keep ignition sources away - Do not smoke.

- **Hygiene measures:**

Do not inhale gases / fumes / aerosols.

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

**Product name: KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 3)

Do not get in eyes, on skin, or on clothing.  
 Take off immediately all contaminated clothing.  
 Wash hands during breaks and at the end of the work.  
 Do not eat, drink or smoke when using this product.

**7.2 Conditions for safe storage, including any incompatibilities**
**Storage**
**Requirements to be met by storerooms and containers:** Store in cool location.

**Information about storage in one common storage facility:**

Store away from metals.  
 Do not store together with alkalis (caustic solutions).  
 Store away from oxidising agents.

**Further information about storage conditions:**

Keep container tightly sealed.  
 Protect from heat and direct sunlight.  
 Protect from the effects of light.  
 Protect from humidity and keep away from water.

**Recommended storage temperature:** 20°C +/- 5°C

**7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**
**Components with limit values that require monitoring at the workplace:**
**CAS: 64-19-7 acetic acid**

IOELV (European Union)	Short-term value: 50 mg/m <sup>3</sup> , 20 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
OEL (Sweden)	Short-term value: 25 mg/m <sup>3</sup> , 10 ppm Long-term value: 13 mg/m <sup>3</sup> , 5 ppm V

**Regulatory information**

IOELV (European Union): (EU) 2017/164  
 OEL (Sweden): AFS2015:7

**DNELs**
**CAS: 64-19-7 acetic acid**

Inhalative	DNEL	25 mg/m <sup>3</sup> (Worker / acute / local effects) 25 mg/m <sup>3</sup> (Worker / long-term / local effects) 25 mg/m <sup>3</sup> (Consumer / acute / local effects) 25 mg/m <sup>3</sup> (Consumer / long-term / local effects)
------------	------	--

**Recommended monitoring procedures:**

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

**PNECs**
**CAS: 64-19-7 acetic acid**

PNEC	85 mg/l (Sewage treatment plant) 0.3058 mg/l (Marine water) 30.58 mg/l (Aquatic intermittent release) 3.058 mg/l (Fresh water)
PNEC	1.136 mg/kg (Marine sediment)

**Additional information:** The lists that were valid during the compilation were used as basis.

**8.2 Exposure controls**
**Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.  
 See item 7.

**Personal protective equipment**
**Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

**Recommended filter device for short term use:** Combination filter E-P2

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

**Product name: KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 4)

**Protection of hands:**

Acid resistant gloves

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

**Material of gloves**

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.7$  mm
**Penetration time of glove material**

Breakthrough time: &gt; 480 min

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

**Eye protection:** Tightly sealed safety glasses.

**Body protection:** Acid resistant protective clothing

**Limitation and supervision of exposure into the environment:** Do not allow product to reach sewage system or water bodies.

### SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**Appearance:**
**Form / Physical state:**

Fluid

**Colour:**

Colourless

**Odour:**

Pungent

**Odour threshold:**

Not determined.

**pH-value at 20°C:**

&lt; 1

Strongly acidic

**Melting point/Freezing point:**

Not determined

**Initial boiling point and boiling range:** >100°C

**Flash point:**

&gt; 61°C

**Flammability (solid, gas):**

Not applicable.

**Decomposition temperature:**

Not determined.

**Auto-ignition temperature:**

Product is not self-igniting.

**Explosive properties:**

Product is not explosive. However, formation of explosive air/steam mixtures is possible.

**Flammability or explosive limits:**
**Lower:**

4 Vol % (Acidum glaciale)

**Upper:**

17 Vol % (Acidum glaciale)

**Oxidising properties:**

none

**Vapour pressure:**

Not determined.

**Density at 20°C:**
~1.07 g/cm<sup>3</sup>
**Relative density:**

Not determined.

**Vapour density:**

Not determined.

**Evaporation rate:**

Not determined.

**Solubility(ies):**
**Water:**

Fully miscible

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

Not determined.

**Solvent content:**
**Organic solvents:**

&gt; 75 %

**Water:**

&lt; 25 %

**9.2 Other information**
**Metal corrosion rate:**

acc. to "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fifth revised Edition"

**steel:**

22 mm/a

 GB  
 (Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

**Product name: KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 5)

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** Fumes can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
  - Corrosive action on metals
  - Reacts with metals forming hydrogen (--> Explosive!)
  - When diluting, always add acid to water, never vice versa
  - Reacts with strong alkalis and oxidizing agents.
  - Nitric acid
  - > exothermic reaction
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** metals
- **10.6 Hazardous decomposition products:** see section 5

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

#### • **LD/LC50 values that are relevant for classification:**

##### **CAS: 64-19-7 acetic acid**

Oral	LD50.	3310 mg/kg (rat) (RTECS)
Dermal	LD50.	1130 mg/kg (rabbit) (GESTIS)
Inhalative	LC50.	39.95 mg/l/4h (rat) (RTECS)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
  - Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
  - Causes serious eye damage.
  - Risk of blindness!
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

#### • **Information on components:**

CAS 64-19-7: Did not show teratogenic effects in animal experiments (IUCLID).  
 OECD 414: Teratogenicity testing  
 OECD 473: Mutagenicity testing  
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

##### **CAS: 64-19-7 acetic acid**

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Salmonella typhimurium)
OECD 473	(negative) (Mammalian Chromosomal Aberration Test)

#### • **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.  
 The aerosol is corrosive to the eyes, the skin and the respiratory tract. Inhalation of aerosols may cause lung oedema.

- **Experience with humans:** CAS 64-19-7: Can cause kidney damages.

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

Product name: **KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 6)

### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Aquatic toxicity:

##### CAS: 64-19-7 acetic acid

EC50	47 mg/l/24h (Daphnia magna)
LC50	75 mg/l/96h (bluegill)
	>300.8 mg/l/96h (rainbow trout) (OECD 203)
	(Registrant, ECHA: based on the effect of the acetate ion)

#### 12.2 Persistence and degradability

biodegradable

##### CAS: 64-19-7 acetic acid

OECD 301 D	99 % / 30 d (readily biodegradable) (Closed Bottle Test)
OECD 302 B	95 % / 5 d (readily eliminated from water) (Zahn-Wellens / EMPA Test)

#### 12.3 Bioaccumulative potential

No further relevant information available.

#### 12.4 Mobility in soil

No further relevant information available.

#### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

#### 12.6 Other adverse effects

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Avoid transfer into the environment.

#### Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

##### European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
-----------	--

#### Uncleaned packagings:

##### Recommendation:

Disposal must be made according to official regulations.

##### Recommended cleaning agent:

Water, if necessary with cleaning agent.

### SECTION 14: Transport information

#### 14.1 UN-Number

##### ADR, IMDG, IATA

UN2790

#### 14.2 UN proper shipping name

##### ADR

2790 ACETIC ACID SOLUTION

##### IMDG, IATA

ACETIC ACID SOLUTION

#### 14.3 Transport hazard class(es)

##### ADR



##### Class

8 (C3) Corrosive substances.

(Contd. on page 8)

— GB —

# Safety data sheet

## according to 1907/2006/EC, Article 31


Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

Product name: **KS410 - Acetic Acid 80 % (v/v)**

(Contd. of page 7)

· <b>Label</b>	8
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances.
· <b>Label</b>	8
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Warning: Corrosive substances.
· <b>Kemler Number:</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>Stowage Category</b>	A
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

### SECTION 15: Regulatory information

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

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

· **Training hints** Provide adequate information, instruction and training for operators.

(Contd. on page 9)

GB



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 1

Revision: 27.06.2018

---

**Product name: KS410 - Acetic Acid 80 % (v/v)**


---

(Contd. of page 8)

**• Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Met. Corr. 1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

**• Sources**

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

RTECS (Registry of Toxic Effects of Chemical Substances )

GESTIS- Stoffdatenbank (Substance Database, Germany)

---

 GB