

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

**TETENAL**

Printing date 03.03.2020

version no: 4

Revision: 03.03.2020

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

**1.1 Product identifier**

**Trade name:** Hardener for Fixers and Stop baths

**Article number:** 101038

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

No further relevant information available.

**Application of the substance / the mixture** Fixing bath for photographic use

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

**Manufacturer/Supplier:**

TETENAL 1847 GmbH

Schützenwall 31-35

D-22844 Norderstedt /Germany

Tel.: +49 (0) 40 521 45-0; Fax: +49 (0)40-52145-296

www.tetenal.com; E-mail: info@tetenal.com

**Further information obtainable from:** Department product safety. E-Mail: sida@tetenal.com

**1.4 Emergency telephone number:**

Poison Information Centre Germany: +49 (0) 30 - 30686 700 (English and German 24 hours)

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

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.

**2.2 Label elements**

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

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**



GHS05

**Signal word** Danger

**Hazard-determining components of labelling:**

aluminium sulphate

acetic acid

**Hazard statements**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

**Precautionary statements**

P234 Keep only in original packaging.

P280 Wear protective gloves / eye protection.

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.

P390 Absorb spillage to prevent material damage.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local regulations.

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- . **2.3 Other hazards**
- . **Results of PBT and vPvB assessment**
- . **PBT:** Not applicable.
- . **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- . **3.2 Chemical characterisation: Mixtures**
  - . **Description:** Mixture of substances listed below and with nonhazardous additions.
  - . **Dangerous components:**
- |                            |   |         |
|----------------------------|---|---------|
| CAS: 64-19-7               | acetic acid                                 | 10-<25% |
| EINECS: 200-580-7          | ⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314 |         |
| Index number: 607-002-00-6 |   |         |
| Reg.nr.: 01-2119475328-30  |   |         |
| CAS: 10043-01-3            | aluminium sulphate                          | 10-<25% |
| EINECS: 233-135-0          | ⚠ Skin Corr. 1C, H314; Eye Dam. 1, H318     |         |
- . **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:** Immediately remove any clothing/shoes soiled by the product.
- . **After inhalation:**  
Supply fresh air; consult doctor in case of complaints.  
In case of unconsciousness place patient stably in side position for transportation.
- . **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- . **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- . **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.
- . **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- . **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- . **5.1 Extinguishing media**
- . **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- . **5.2 Special hazards arising from the substance or mixture**  
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . **5.3 Advice for firefighters**
- . **Protective equipment:** Do not inhale explosion gases or combustion gases.

### SECTION 6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation
- . **6.2 Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- . **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Pick up mechanically.

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**6.4 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.

## SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.

**Information about fire - and explosion protection:** Protect from heat.**7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:**

- Store only in the original receptacle.
- do not use metal containers

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do not use metal containers

do not use metal containers

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

Store away from foodstuffs.

Store away from oxidising agents.

**Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Store under lock and key and out of the reach of children.

Recommended storage temperature: 5-30°C

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

## SECTION 8: Exposure controls/personal protection

**Additional information about design of technical facilities:** No further data; see item 7.

**8.1 Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**64-19-7 acetic acid (10-<25%)**

IOELV (EU)	Short-term value: 50 mg/m <sup>3</sup> , 20 ppm
	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

PEL (USA)	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
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REL (USA)	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm
	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

TLV (USA)	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm
	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

**10043-01-3 aluminium sulphate (10-<25%)**

WEL (Great Britain)	Long-term value: 2 mg/m <sup>3</sup>
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REL (USA)	Long-term value: 2 mg/m <sup>3</sup> as Al
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TLV (USA)	Long-term value: 1* mg/m <sup>3</sup> as Al,*as respirable fraction
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**DNELs**

**64-19-7 acetic acid**

Inhalative Akute /short-term exposure - local effects	25 mg/m <sup>3</sup> (Worker (Arbeiter))
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Long-term - local - effects	25 mg/m <sup>3</sup> (Worker (Arbeiter))
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Akute-lokale Effekte	25 mg/m <sup>3</sup> (general population- Verbraucher)
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Long-term - local effects	25 mg/m <sup>3</sup> (general population- Verbraucher)
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**PNECs**

**64-19-7 acetic acid**

Aquatic compartment - freshwater	3.058 mg/l (-)
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Aquatic compartment - marine water	0.358 mg/l (-)
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Aquatic compartment -water,intermittent releases	30.58 mg/l (-)
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Aquatic compartment -sediment in freshwater	11.36 mg/kg sed dw (-)
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Aquatic compartment -sediment in marine water	1.136 mg/kg sed dw (-)
---	------------------------

Terrestrial compartment -soil	0.478 mg/kg dw (Soil)
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Sewage treatment plant (Abwasserreinigungsanlagen) 85 mg/l (-)

. **Additional information:** The lists valid during the making were used as basis.. **8.2 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.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

. **Respiratory protection:** Ensure adequate ventilation. **Protection of hands:**

Protective gloves

Impervious gloves

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**

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR

Nitrile rubber, NBR

Neoprene gloves

. **Penetration time of glove material**

Glove material	breakthrough-time	layer thickness
Butyl rubber:	≥480 min	≥0,4mm
Nitrile rubber:	≥480 min	≥0,38mm
Neoprene:	≥240 min	≥0,65mm

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 goggles

. **Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

. **9.1 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. **Change in condition**

**Melting point/freezing point:** Undetermined.

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<b>Initial boiling point and boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.
<b>Density at 20 °C:</b>	~1.1 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with water:</b>	Fully miscible.
<b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- . **10.1 Reactivity** No further relevant information available.
- . **10.2 Chemical stability**
- . **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- . **10.3 Possibility of hazardous reactions** Reacts with acids, alkalis and oxidising agents.
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:** No further relevant information available.
- . **10.6 Hazardous decomposition products:** Irritant gases/vapours

### 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 relevant for classification:**
- 64-19-7 acetic acid**
- Oral      LD50 3310 mg/kg (rat)
- Dermal   LD50 1130 mg/kg (rabbit)
- Inhalative LC50 1h: 5620 mg/l (mouse)
- 10043-01-3 aluminium sulphate**
- Oral      LD50 6207 mg/kg (rat)
- . **Primary irritant effect:**
- . **Skin corrosion/irritation**
- Causes severe skin burns and eye damage.
- . **Serious eye damage/irritation**
- Causes serious eye damage.
- . **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- . **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- . **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-single exposure** Based on available data, the classification criteria are not met.
- . **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- . **Aspiration hazard** Based on available data, the classification criteria are not met.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Aquatic toxicity:

#### 64-19-7 acetic acid

LC50 24h: &gt;100 mg/l (daphnia magna (Water flea))

96h: &gt;1000 mg/l (fish)

96h: 75 mg/l (Lepomis macrochirus (Sonnenbarsch))

24h: 106 mg/l (fish: Pimephales promelas)

#### 10043-01-3 aluminium sulphate

LC50 96h: 100 mg/l (fish)

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

##### Additional ecological information:

##### General notes:

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

#### 12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Recommendation

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

##### European waste catalogue

09 01 04\* fixer solutions

##### Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

### 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.

Label

8

IMDG, IATA

Class

8 Corrosive substances.

Label

8

#### 14.4 Packing group

ADR, IMDG, IATA

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**. 14.5 Environmental hazards:**
**. Marine pollutant:** No

**. 14.6 Special precautions for user**

Warning: Corrosive substances.

**. Hazard identification number (Kemler code):** 80

**. EMS Number:** F-A,S-B

**. Segregation groups** Acids

**. Stowage Category** A

**. 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**. Transport/Additional information:**
**. ADR**
**. Limited quantities (LQ)** 5L

**. Excepted quantities (EQ)** Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**. Transport category** 3

**. Tunnel restriction code** E

**. IMDG**
**. Limited quantities (LQ)** 5L

**. Excepted quantities (EQ)** Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**. UN "Model Regulation":**

UN 2790 ACETIC ACID SOLUTION, 8, III

### SECTION 15: Regulatory information

**. 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**. REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

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

### SECTION 16: Other information

This information is based on our present knowledge. However, this 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.

H318 Causes serious eye damage.

**. Contact:** E: sida@tetenal.com

**. Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organisation

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

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

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

**\* Data compared to the previous version altered.**

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