

# METTLER TOLEDO SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006  
(amended by Regulation (EU) 2020/878)

## Buffer solution pH 2.00

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

#### 1.1. Product identifier

**Product name** Buffer solution pH 2.00  
**Product code** 52118017, 30323687, 51350002, 51350016, 30111134

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

**Use of the Substance/Mixture** Laboratory chemicals

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

**Company/Undertaking Identification** Mettler-Toledo GmbH  
Im Langacher 44  
CH-8606 Greifensee  
Switzerland  
Tel: +41 22 567 53 22  
Fax: +41 22 567 53 23  
Email: ph.lab.support@mt.com

**1.4. Emergency telephone number** (24-Hour-Number): GBK GmbH +49 6132 84463

**Revision date** 30.04.2021

**Version** GHS 3 (Previous versions: GHS 2)

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### SECTION 2: Hazards identification

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

**Classification according to Regulation (EC) No. 1272/2008** Skin corrosion/irritation, Cat. 2, H315  
Serious eye damage/eye irritation, Cat. 2, H319

**Additional information** For the full text of the phrases mentioned in this Section, see Section 16.

## 2.2. Label elements



<b>Signal Word</b>	Warning
<b>Hazard Statements</b>	H315: Causes skin irritation. H319: Causes serious eye irritation.
<b>Precautionary statements</b>	P280c: Wear protective gloves/ eye protection/ face protection. P302+P352: IF ON SKIN: Wash with plenty of soap and water. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical advice/ attention.
<b>Supplemental information</b>	None.
<b>Product identifier</b>	Citric acid anhydrous, CAS-No. 77-92-9, EC-No. 201-069-1 Hydrochloric acid, CAS-No. 7647-01-0, EC-No. 231-595-7

2.3. Other hazards None known.

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## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Components		CLP Classification	Product identifier
Deionised water	95% - 99%	-	CAS-No.: 7732-18-5 EC-No.: 231-791-2
Citric acid anhydrous	0,5% - 1%	Eye Irrit. 2 H319	CAS-No.: 77-92-9 EC-No.: 201-069-1
Hydrochloric acid	0,01% - 0,1%	Skin Corr. 1B H314, STOT SE 3 H335 [Skin Corr. 1B H314: C ≥ 25 %   Skin Irrit. 2 H315: 10 % ≤ C < 25 %   Eye Irrit. 2 H319: 10 % ≤ C < 25 %   STOT SE 3 H335: C ≥ 10 %]	CAS-No.: 7647-01-0 EC-No.: 231-595-7 Index-No: 017-002-01-X

For the full text of the phrases mentioned in this Section, see Section 16.

**Hazardous impurities** None known.

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	Move to fresh air in case of accidental inhalation of vapours or decomposition products. Consult a physician for severe cases.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Consult an ophthalmologist.
<b>Ingestion</b>	Rinse mouth. Immediately give large quantities of water to drink. Induce vomiting if person is conscious. Obtain medical attention.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	Irritant effect: on eyes, on skin, on air passages. If you feel unwell, seek medical advice (show the label where possible). May be corrosive.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	None known.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** Use water spray, alcohol-resistant foam, dry extinguishing agent or carbon dioxide.

**Extinguishing media which must not be used for safety reasons** None.

**5.2. Special hazards arising from the substance or mixture** The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Standard procedure for chemical fires. In the event of fire, wear self-contained breathing apparatus. Wear protective suit.

**Specific methods** Water mist may be used to cool closed containers.

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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Advice for non-emergency personnel** Ensure adequate ventilation. Use personal protective equipment. Sweep up to prevent slipping hazard. Avoid contact with skin and eyes. Do not breathe vapours/dust.

**Advice for emergency responders** Use personal protective equipment. Sweep up to prevent slipping hazard. Handle in accordance with good industrial hygiene and safety practice.

**6.2. Environmental precautions** Do not flush into surface water or sanitary sewer system.

**6.3. Methods and material for containment and cleaning up** Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

**6.4. Reference to other sections** See chapter 8 and 13.

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## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Wear personal protective equipment. Practice care and caution to avoid skin contact and inhalation of vapours or mists if generated. Avoid contact with skin and eyes.

**7.2. Conditions for safe storage, including any incompatibilities** Store at room temperature in the original container.

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

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Exposure limit(s)** No data is available on the product itself.

<b>Hydrochloric acid (CAS 7647-01-0)</b>	
United Kingdom - Workplace Exposure Limits (WELs) - STELs	5 ppm STEL (aerosol mist and gas) 8 mg/m <sup>3</sup> STEL (aerosol mist and gas)
United Kingdom - Workplace Exposure Limits (WELs) - TWAs	1 ppm TWA (aerosol mist and gas) 2 mg/m <sup>3</sup> TWA (aerosol mist and gas)
EU - Occupational Exposure (2000/39/EC) - First List of Indicative Occupational Exposure Limit Values - TWAs	5 ppm TWA 8 mg/m <sup>3</sup> TWA
EU - Occupational Exposure (2000/39/EC) - First List of Indicative Occupational Exposure Limit Values - STELs	10 ppm STEL 15 mg/m <sup>3</sup> STEL

### 8.2. Exposure controls

**Appropriate engineering controls** Avoid contact with skin, eyes and clothing.

#### Personal protection equipment

**Respiratory protection** No personal respiratory protective equipment normally required.

<b>Hand protection</b>	Gloves made of latex. The selected protective gloves have to satisfy the specifications of Regulation (EU) No. 2016/425 and the standard EN 374 derived from it. Break through time: > 4 h. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
<b>Eye protection</b>	Safety glasses with side-shields conforming to EN166.
<b>Skin and body protection</b>	Long sleeved clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.
<b>Thermal hazards</b>	No special measures required.
<b>Environmental exposure controls</b>	Prevent product from entering surface water or sewage.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	None.
<b>Melting point/ freezing point:</b>	Not determined.
<b>Boiling point or initial boiling point / range:</b>	Not determined.
<b>Flammability:</b>	Not determined.
<b>Lower and upper explosion limit:</b>	Not determined.
<b>Flash point:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Not determined.
<b>Decomposition temperature:</b>	Not determined.
<b>pH:</b>	2.00
<b>Kinematic viscosity:</b>	Not determined.
<b>Solubility:</b>	completely miscible (Water)
<b>Partition coefficient n-octanol/water (log value):</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.
<b>Density and/or relative density:</b>	Not determined.
<b>Relative vapour density:</b>	Not determined.
<b>Particle characteristics:</b>	Not applicable.

### 9.2. Other information

<b>Other safety characteristics</b>	No information available.
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## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	No information available.
<b>10.2. Chemical stability</b>	Stable at normal conditions.

<b>10.3. Possibility of hazardous reactions</b>	No information available.
<b>10.4. Conditions to avoid</b>	Direct sources of heat.
<b>10.5. Incompatible materials</b>	Incompatible with strong bases and oxidizing agents.
<b>10.6. Hazardous decomposition products</b>	None reasonably foreseeable.

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## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

<b>Acute toxicity</b>	No data is available on the product itself. <b>Deionised water (CAS 7732-18-5)</b> Oral LD50 Rat > 90 mL/kg (FOOD_JOURN) <b>Citric acid anhydrous (CAS 77-92-9)</b> Dermal LD50 Rat > 2000 mg/kg (EU_CLH) Oral LD50 Rat = 3 g/kg (NLM_CIP) <b>Hydrochloric acid (CAS 7647-01-0)</b> Dermal LD50 Rabbit > 5010 mg/kg (JAPAN_GHS) Inhalation LC50 Rat = 1.68 mg/L 1 h(JAPAN_GHS) Oral LD50 Rat 238 - 277 mg/kg (JAPAN_GHS)
<b>Skin corrosion/irritation</b>	May cause irritation of the mucous membranes. May irritate skin. May be corrosive.
<b>Serious eye damage/eye irritation</b>	Moderate eye irritation. May be corrosive.
<b>Respiratory / Skin Sensitisation</b>	No data available.
<b>Carcinogenicity</b>	No data available.
<b>Germ cell mutagenicity</b>	No data available.
<b>Reproductive toxicity</b>	No data available.
<b>Specific target organ toxicity (single exposure)</b>	No data available.
<b>Specific target organ toxicity (repeated exposure)</b>	No data available.
<b>Aspiration hazard</b>	No data available.
<b>Human experience</b>	No data available.

### 11.2. Information on other hazards

<b>Information on likely routes of exposure</b>	dermal
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**Symptoms related to the physical, chemical and toxicological characteristics**

May have irritant effect: on eyes, on skin, on air passages. May be corrosive. Inhaled corrosive substances can lead to a toxic oedema of the lungs.

**Other information**

No data available.

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**SECTION 12: Ecological information**

**12.1. Toxicity**

No data is available on the product itself.

**Citric acid anhydrous (CAS 77-92-9)**

EU - Ecolabel (66/2010) -  
Detergent Ingredient Database -  
Anaerobic Degradation

Biodegradable under anaerobic conditions.

EU - Ecolabel (66/2010) -  
Detergent Ingredient Database -  
Aerobic Degradation

Readily biodegradable according to OECD guidelines.

Ecotoxicity - Freshwater Fish -  
Acute Toxicity Data

LC50 96 h *Lepomis macrochirus* 1516 mg/L (OECD\_SIDS)

**12.2. Persistence and degradability**

Expected to be biodegradable.

**12.3. Bioaccumulative potential**

Bioaccumulation is unlikely.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

No information available.

**12.6. Endocrine disrupting properties**

No information available.

**12.7. Other adverse effects**

No information available.

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**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Waste from residues / unused products**

Dispose of as hazardous waste in compliance with local and national regulations. Taking into account local regulations the product may be disposed of as waste water after neutralisation.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information**

**14.1. UN number or ID number**

Not applicable.

<b>14.2. UN proper shipping name</b>	Not applicable.
<b>14.3. Transport hazard class(es)</b>	Not applicable.
<b>14.4. Packing group</b>	Not applicable.
<b>14.5. Environmental hazards</b>	Not applicable.
<b>14.6. Special precautions for user</b>	Not applicable.
<b>14.7. Maritime transport in bulk according to IMO instruments</b>	Not applicable.
<b>UN Model Regulations</b>	
<b>ADR/RID</b>	Not regulated.
<b>IMDG</b>	Not regulated.
<b>IATA</b>	Not regulated.
<b>Further Information</b>	Not classified as dangerous in the meaning of transport regulations.

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## SECTION 15: Regulatory information

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

**Regulatory Information** The product is classified and labelled according to Regulation (EC) No. 1272/2008.

<b>Citric acid anhydrous (CAS 77-92-9)</b>	
EU - Biocides (2007/565/EC) - Substances and Product-Types Not to Be Included in Annexes I, IA and IB to Directive 98/8/EC	Product type: 2 Product type: 3
EU - Biocides (528/2012/EU) - Active Substances	2 - Disinfectants and algacides not intended for direct application to humans or animals (Commission Implementing Regulation 2016/1938/EU) 6 - Preservatives for products during storage (Commission Delegated Regulation 2021/407/EU)
EU - Biocides (1062/2014) - Annex II Part 1 - Supported Substances	060 Product type 1 (201-069-1)
EU - REACH (1907/2006) - List of Registered Substances	Present
<b>Hydrochloric acid (CAS 7647-01-0)</b>	
EU - Biocides (98/8/EC) - Annex I - Active Substances - Product Type	Product type 2 (listed under EC Number 231-595-7)

EU - Biocides (98/8/EC) - Annex I - Active Substances - Specific Provisions	Member States shall assess, where relevant for the particular product, those uses or exposure scenarios and those risks to human populations and to environmental compartments that have not been representatively addressed in the Union level risk assessment. Member States shall ensure that authorisations of products for non-professional use are subject to the packaging being designed to minimize user exposure, unless it can be demonstrated in the application for product authorisation that risks for human health can be reduced to acceptable levels by other means (listed under EC Number 231-595-7)
EU - Biocides (98/8/EC) - Annex I - Active Substances - Expiry Dates	Expiration date: April 30, 2024 Product type 2 (listed under EC Number 231-595-7)
EU - Biocides (528/2012/EU) - Active Substances	2 - Disinfectants and algacides not intended for direct application to humans or animals (Commission Directive 2012/16/EU)
EU - Biocides (98/8/EC) - Annex I - Active Substances - Minimum Purity	999 g/kg 2 (listed under EC Number 231-595-7)
EU - REACH (1907/2006) - List of Registered Substances	Present
EU - REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	Use restricted. See item 75. (U, 5)
EU - REACH (1907/2006) - List of Registered Intermediates	Present ([231-595-7])
UN (United Nations) - Convention on Illicit Traffic in Narcotics & Psychotropics - Table II Substances	Present

**15.2. Chemical safety assessment**

Not required.

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**SECTION 16: Other information**

<b>Revision Note</b>	Safety datasheet sections which have been updated: 3, 11, 13, 15.
<b>Key or legend to abbreviations and acronyms</b>	CLP: Classification according to Regulation (EC) No. 1272/2008 (GHS)
<b>Key literature references and sources for data</b>	Information taken from reference works and the literature.
<b>Classification procedure</b>	Calculation method.
<b>Full text of phrases referred to under sections 2 and 3</b>	H314: Causes severe skin burns and eye damage. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation.
<b>Instructions for use</b>	Restricted to professional users.

## Disclaimer

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. It is not to be considered a warranty or quality specification.