

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

Printing date 18.04.2019

Version number 5

Revision: 18.04.2019

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

##### · 1.1 Product identifier

· Product name: **Free Chlorine Buffer Solution**

· \_SDS valid from Lot: P03A

· Catalog number: 530223, 4530223, 424489

##### · 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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

##### · 2.2 Label elements

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

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**Product name: Free Chlorine Buffer Solution**

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**Hazard pictograms**


GHS07

**Signal word** Warning

**Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

**Precautionary statements**

P261 Avoid breathing mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection.

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

P308+P313 IF exposed or concerned: Get medical advice/attention.

**2.3 Other hazards** No further relevant information available.

**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: 50977-65-6	lithium maleate	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10–20%
CAS: 85796-96-9	lithium bimalate	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	5–10%

**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** Instantly remove any clothing soiled by the product.

**After inhalation** Supply fresh air; consult doctor in case of symptoms.

**After skin contact**

Instantly rinse with water.

If skin irritation continues, consult a doctor.

**After eye contact** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.

**After swallowing**

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

Seek medical treatment.

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

irritations

after swallowing:

vomiting

drowsiness

**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** Use fire fighting measures that suit the environment.

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

The product is not combustible.

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

Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>)

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**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.
  - Ambient fire may liberate hazardous vapours.
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### 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.
- Ensure adequate ventilation

**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.
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### SECTION 7: Handling and storage

**7.1 Precautions for safe handling**
**Advice on safe handling:**

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

**Hygiene measures:**

- Do not inhale gases / fumes / aerosols.
- Avoid contact with the skin.
- Avoid contact with the eyes.
- 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:** Not required.

**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.

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### SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**
**Components with limit values that require monitoring at the workplace:**
**CAS: 57-55-6 Propylene glycol**

WEL (Great Britain)	Long-term value: 474* 10** mg/m <sup>3</sup> , 150* ppm
	*total vapour and particulates **particulates

**Regulatory information** WEL (Great Britain): EH40/2018

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- **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.
  - **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 A-P2
  - **Protection of hands:**  
Protective 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**  
nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm
  - **Penetration time of glove material**  
Value for the permeation: Level = 1 ( < 10 min )  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - **Eye protection:** Safety glasses
  - **Body protection:** Protective work clothing.
  - **Limitation and supervision of exposure into the environment:** Do not allow product to reach sewage system or water bodies.
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### SECTION 9: Physical and chemical properties

· <b>9.1 Information on basic physical and chemical properties</b>	
· <b>Appearance:</b>	
Form / Physical state:	Fluid
Colour:	Light yellow
· <b>Odour:</b>	Mild
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value at 20°C:</b>	6.1
· <b>Melting point/Freezing point:</b>	Not determined
· <b>Initial boiling point and boiling range:</b>	Not determined
· <b>Flash point:</b>	Not applicable
· <b>Flammability (solid, gas):</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Product is not self-igniting.
· <b>Explosive properties:</b>	Product is not explosive.
· <b>Flammability or explosive limits:</b>	
Lower:	Not applicable
Upper:	Not applicable
· <b>Oxidising properties:</b>	none
· <b>Vapour pressure:</b>	Not determined.
· <b>Density at 20°C:</b>	1.13 g/cm <sup>3</sup>
· <b>Relative density:</b>	Not determined.
· <b>Vapour density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility(ies):</b>	
Water:	Fully miscible
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.

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· <b>Viscosity:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	< 5 %
<b>Water:</b>	> 70 %
<b>Solids content:</b>	< 25 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions** No further relevant information available.
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **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.
- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **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**  
May cause respiratory irritation.
- **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.
- **Additional toxicological information:**  
The following applies to lithium compounds in general:  
after absorption: CNS disorders, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach  
Other dangerous properties can not be excluded.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Other information:**  
The following applies for lithium compounds in general:  
fish toxic from 100 mg/l, Daphnia toxic from 16 mg/l, plants toxic from 0,2 mg/l
- **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.
- **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** Avoid transfer into the environment.
- **Water hazard:**  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

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Danger to drinking water if even extremely small quantities leak into soil.

### 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 06\* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

**14.1 UN-Number**

ADR, IMDG, IATA

Void

**14.2 UN proper shipping name**

ADR, IMDG, IATA

Void

**14.3 Transport hazard class(es)**

ADR, IMDG, IATA

Class

Void

**14.4 Packing group**

ADR, IMDG, IATA

Void

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user**

Not applicable.

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

Not applicable.

**Transport/Additional information:**

Not dangerous according to the above specifications.

### 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

**Regulation (EU) No 649/2012**

None of the ingredients is listed.

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

**VOC-value EC:** 303.4 g/l

**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.

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**· Relevant phrases**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

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

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)  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

**· Sources** Data arise from safety data sheets, reference works and literature.**· \* Data compared to the previous version altered.**

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