

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 5

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## Electrolyte

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

#### 1.1. Product identifier

Trade name/designation:

Electrolyte

#### Other means of identification:

50.2501600 Electrolyte MSG 52/80, LS 141/145  
50.2501604 Electrolyte Lötstar 141/145 ab 12/2010  
50.2527510 Electrolyte MSG 360 / 361  
50.2520710 Electrolyte MSG 171 / MSG 175W  
50.2517500 Electrolyte MSG 170  
50.2520700 Electrolyte LÖTSTAR 170/ LÖTSTAR 171  
50.2535500 Electrolyte MSG 500 / 501  
50.4030100 Electrolyte LÖTSTAR 175/240/241/300/301  
50.2527500 Electrolyte MSG 360/361

#### UFI:

2H00-60XY-H001-TUG8

#### CAS No.:

1310-58-3

#### EC No.:

215-181-3

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

##### Use of the substance/mixture:

electrolyte, electrolysis of distilled water

##### Relevant identified uses:

###### Life cycle stage [LCS]

PW: Widespread use by professional workers

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

##### Supplier (manufacturer/importer/only representative/downstream user/distributor):

###### MIG-O-MAT Mikrofügetechnik GmbH

Werksstraße 20

57299 Burbach

Telephone: +49 (0) 2736 4154 0

Telefax: +49 (0) 2736 4154 99

E-mail: info@mig-o-mat.com

Website: www.mig-o-mat.com

##### E-mail (competent person): reach@tuv sud.com

TÜV SÜD Industrie Service GmbH -

Environmental Service REACH -

Westendstraße 199 -

80686 Munich -

Germany

+49 (0) 89 5791 3031

#### 1.4. Emergency telephone number

24h: +49 (0) 89 19240

### SECTION 2: Hazards identification

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

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Corrosive to metals ( <i>Met. Corr. 1</i> )	H290: May be corrosive to metals.	Practical experience/human evidence.
Acute toxicity (oral) ( <i>Acute Tox. 4</i> )	H302: Harmful if swallowed.	Minimum classification.

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Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation ( <i>Skin Corr. 1A</i> )	H314: Causes severe skin burns and eye damage.	Minimum classification.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

##### Hazard pictograms:



**GHS05**  
Corrosion



**GHS07**  
Exclamation mark

**Signal word:** Danger

##### Hazard components for labelling:

potassium hydroxide

Hazard statements for physical hazards	
H290	May be corrosive to metals.
Hazard statements for health hazards	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

**Supplemental hazard information:** none

Precautionary statements Prevention	
P280	Wear protective gloves/protective clothing/eye protection/face 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.
Precautionary statements Disposal	
P502	Refer to manufacturer or supplier for information on recovery or recycling.

### 2.3. Other hazards

#### Adverse physicochemical effects:

No information available.

#### Adverse human health effects and symptoms:

No information available.

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no component meets the criteria.

#### Adverse environmental effects:

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no component meets the criteria.

#### Other adverse effects:

Special danger of slipping by leaking/spilling product.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Description:

Alkali (lye), concentrated (KOH) 45%

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### Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration
CAS No.: 1310-58-3 EC No.: 215-181-3 Index No.: 019-002-00-8	<b>potassium hydroxide</b> Acute Tox. 4 (H302), Skin Corr. 1A (H314)  Danger <b>Specific concentration limit (SCL)</b> Skin Corr. 1A; H314: $C \geq 5\%$ Skin Corr. 1B; H314: $2\% \leq C < 5\%$ Skin Irrit. 2; H315: $0.5\% \leq C < 2\%$ Eye Dam. 1; H318: $C \geq 2\%$ Eye Irrit. 2; H319: $0.5\% \leq C < 2\%$	40 - 50 weight-%

Full text of H- and EUH-phrases: see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

#### Following inhalation:

No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

Remove casualty to fresh air and keep warm and at rest.

In case of respiratory tract irritation, consult a physician.

#### In case of skin contact:

Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

After contact with skin, wash immediately with plenty of water and soap.

Remove contaminated, saturated clothing immediately.

#### After 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 in any case!

#### Self-protection of the first aider:

First aider: Pay attention to self-protection!

### 4.2. Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage.

### 4.3. Indication of any immediate medical attention and special treatment needed

No data available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media:

Water, Foam, Extinguishing powder

#### Unsuitable extinguishing media:

Strong water jet

### 5.2. Special hazards arising from the substance or mixture

Fire fighting water forms corrosive alkaline solutions - slip hazard!

### 5.3. Advice for firefighters

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### 5.4. Additional information

The product itself does not burn.

Co-ordinate fire-fighting measures to the fire surroundings.

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### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

**Personal precautions:**

Use personal protection equipment.  
Special danger of slipping by leaking/spilling product.

**Emergency procedures:**

Remove persons to safety.  
Provide adequate ventilation.

##### 6.1.2. For emergency responders

**Personal protection equipment:**

Chemical protection clothing

#### 6.2. Environmental precautions

Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

#### 6.3. Methods and material for containment and cleaning up

**For containment:**

Universal binder

**For cleaning up:**

The contaminated area should be cleaned up immediately with:  
Water

**Other information:**

Wash with plenty of water.

#### 6.4. Reference to other sections

Safe handling: see section 7  
Disposal: see section 13  
Personal protection equipment: see section 8

#### 6.5. Additional information

Clear spills immediately.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Protective measures**

**Advices on safe handling:**

All work processes must always be designed so that the following is excluded:  
Eye contact  
All work processes must always be designed so that the following is as low as possible:  
Skin contact

**Fire prevent measures:**

No special fire protection measures are necessary.

**Environmental precautions:**

Provide for retaining containers, e.g. floor pan without outflow.

**Advices on general occupational hygiene**

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

In the immediate working surroundings there must be:  
Emergency shower installed

When using do not eat, drink, smoke, sniff.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Technical measures and storage conditions:**

Suitable container/equipment material: Material, alkali-resistant

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Unsuitable container/equipment material: Aluminium, Zinc,

### Packaging materials:

Keep/Store only in original container.

### Requirements for storage rooms and vessels:

The floor should be leak tight, jointless and not absorbent.

Provide for retaining containers, e.g. floor pan without outflow.

### Hints on storage assembly:

Do not store together with:

Food and feedingstuffs

Strong acid

**Storage class (TRGS 510, Germany):** 8B - Non-combustible corrosive substances

### 7.3. Specific end use(s)

#### Recommendation:

Observe technical data sheet.

Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1. Occupational exposure limit values

No data available

#### 8.1.2. Biological limit values

No data available

#### 8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
potassium hydroxide CAS No.: 1310-58-3 EC No.: 215-181-3	1 mg/m <sup>3</sup>	① DNEL worker ② Acute - inhalation, local effects
potassium hydroxide CAS No.: 1310-58-3 EC No.: 215-181-3	1 mg/m <sup>3</sup>	① DNEL Consumer ② Acute - inhalation, local effects

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

#### 8.2.2. Personal protection equipment



#### Eye/face protection:

goggles

Face protection umbrella

#### Skin protection:

Suitable gloves type

NR (natural rubber, Natural latex), NBR (Nitrile rubber), CR (polychloroprene, chloroprene rubber), Butyl caoutchouc (butyl rubber)

Breakthrough time: 480 min

Thickness of the glove material: 0,5 - 0,75 mm

Unsuitable material:

PVA (Polyvinyl alcohol)

#### Respiratory protection:

Respiratory protection necessary at:

aerosol or mist formation

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Filtering device (full mask or mouthpiece) with filter: ABEK-P2 (short-term)

### 8.2.3. Environmental exposure controls

No data available

## SECTION 9: Physical and chemical properties

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

#### Appearance

**Physical state:** Liquid

**Colour:** colourless

**Odour:** odourless

**Odour threshold:** not determined

#### Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	> 14	20 °C	② alkaline
Melting point	≈ -26 °C		
Freezing point	<i>not determined</i>		
Initial boiling point and boiling range	≈ 141 °C		
Decomposition temperature	<i>not applicable</i>		
Flash point	<i>not applicable</i>		
Evaporation rate	<i>not determined</i>		
Auto-ignition temperature	<i>not applicable</i>		
Upper/lower flammability or explosive limits	<i>not applicable</i>		
Vapour pressure	<i>not determined</i>		
Vapour density	<i>not determined</i>		
Density	≈ 1.45 g/cm <sup>3</sup>		
Relative density	<i>not determined</i>		
Bulk density	<i>not determined</i>		
Water solubility			② miscible
Partition coefficient: n-octanol/water	<i>not determined</i>		
Dynamic viscosity	5 mPa·s		
Kinematic viscosity	<i>not determined</i>		

### 9.2. Other information

Water content 55

Solvent content 0

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

May cause strong formation of hydrogen by contact with amphoteric metals (e.g. alumina, lead, zinc) - danger of explosion.

### 10.4. Conditions to avoid

No special measures are necessary.

### 10.5. Incompatible materials

Light metals, Aluminium

### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

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### Further information

Slowly corrodes aluminium and zink under hydrogen evolution.  
Corrosive to metals.

## SECTION 11: Toxicological information

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

**potassium hydroxide** CAS No.: 1310-58-3 EC No.: 215-181-3

**LD<sub>50</sub> oral:** >333 - <388 mg/kg (Rat) OECD 425

#### Acute oral toxicity:

Acute Tox. 4

#### Acute dermal toxicity:

not applicable

#### Acute inhalation toxicity:

not applicable

#### Skin corrosion/irritation:

strongly corrosive.

#### Serious eye damage/irritation:

strongly corrosive.

#### Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.

#### Germ cell mutagenicity:

No experimental indications of in vitro mutagenicity exist.

#### Carcinogenicity:

No indication of human carcinogenicity.

#### Reproductive toxicity:

No evidence for reproductive toxicity in experimental animals.

#### 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:

not applicable

### 11.2. Information on other hazards

#### Endocrine disrupting properties:

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no component meets the criteria.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Aquatic toxicity:

After neutralisation, toxicity is no longer observed.

#### Assessment/classification:

The product is an alkali. Before discharge into sewage plants the product normally needs to be neutralised.

### 12.2. Persistence and degradability

#### Biodegradation:

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

#### Accumulation / Evaluation:

No indication of bioaccumulation potential.

### 12.4. Mobility in soil

No adsorption in soil or sediment.

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### 12.5. Results of PBT and vPvB assessment

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no component meets the criteria.

### 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EWC, specific to the industry and process.

List of proposed waste codes/waste designations in accordance with AAV:

#### 13.1.1. Product/Packaging disposal

#### Waste codes/waste designations according to EWC/AVV

##### Waste code product

16 05 06 *	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
------------	--------------------------------------------------------------------------------------------------------------------

\*: Evidence for disposal must be provided.

#### Directive 2008/98/EC (Waste Framework Directive)

HP 8	Corrosive
------	-----------

##### Waste code packaging

16 05 06 *	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
------------	--------------------------------------------------------------------------------------------------------------------

\*: Evidence for disposal must be provided.

### Waste treatment options

#### Appropriate disposal / Product:





Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

#### Appropriate disposal / Package:

Packing which cannot be properly cleaned must be disposed of.

Completely emptied packages can be recycled.

## SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1. UN number or ID number</b>			
UN 1814	UN 1814	UN 1815	UN 1814
<b>14.2. UN proper shipping name</b>			
POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION
<b>14.3. Transport hazard class(es)</b>			
 8	 8	 8	 8
<b>14.4. Packing group</b>			
II	II	II	II
<b>14.5. Environmental hazards</b>			
No	No	No	No
<b>14.6. Special precautions for user</b>			
<b>Classification code:</b> C5	No data available	No data available	No data available
<b>Tunnel restriction code:</b> (E)			



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### 14.7. Maritime transport in bulk according to IMO instruments

No data available

## SECTION 15: Regulatory information

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

#### 15.1.1. EU legislation

##### Restrictions on use:

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

##### Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

#### 15.1.2. National regulations

##### [DE] National regulations

##### Störfallverordnung (12. BlmschV)

###### for substances contained in the product:

This product is not assigned to a hazard category.

##### Water hazard class

###### WGK:

1 - slightly hazardous to water

#### 15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

### 16.1. Indication of changes

Editorial changes only

### 16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
ES	Exposure scenario
EWC	European Waste Catalogue
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LD <sub>50</sub>	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
OECD	Organisation for Economic Cooperation and Development
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
SCL	Specific concentration limit
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations

### 16.3. Key literature references and sources for data

REACH Dissemination Portal

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<https://echa.europa.eu/de/information-on-chemicals/registered-substances>

### 16.4. Classification for mixtures and used evaluation method according to regulation (EC) No. 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Corrosive to metals ( <i>Met. Corr. 1</i> )	H290: May be corrosive to metals.	Practical experience/human evidence.
Acute toxicity (oral) ( <i>Acute Tox. 4</i> )	H302: Harmful if swallowed.	Minimum classification.
Skin corrosion/irritation ( <i>Skin Corr. 1A</i> )	H314: Causes severe skin burns and eye damage.	Minimum classification.

### 16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

### 16.6. Training advice

No data available

### 16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

This Safety Data Sheet was drawn up by TÜV SÜD Industrie Service GmbH (see below), based on data from the supplier, who is named in section 1 and who is responsible for this document.

TÜV SÜD Industrie Service GmbH  
Department Environmental Service  
Westendstraße 199  
80686 Munich - Germany