

SAFETY DATA SHEET

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

Revision date: 20 Apr 2021

Print date: 20 Apr 2021

Version: 4

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MIG·O·MAT®

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

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@tuev-sued.de

TÜV SÜD Industrie Service GmbH - Environmental Service REACH - Westendstraße 199 - 80686 Munich - Germany +49 (0) 89 5791 3031

1.4. Emergency telephone number

Antipoison Center Munich , 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/human experience.
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.

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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: -

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.
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2.3. Other hazards

Adverse physicochemical effects:

No information available.

Adverse human health effects and symptoms:

No information available.

Adverse environmental effects:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

Other adverse effects:

Special danger of slipping by leaking/spilling product.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Description:

Potassium hydroxide 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	potassium hydroxide Acute Tox. 4, Skin Corr. 1A  Danger H302-H314 Specific concentration limit (SCL): Skin Corr. 1A; H314: C ≥ 5% Skin Corr. 1B; H314: 2% ≤ C < 5% Skin Irrit. 2; H315: 0.5% ≤ C < 2% Eye Dam. 1; H318: C ≥ 2% Eye Irrit. 2; H319: 0.5% ≤ 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.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Suitable container/equipment material: Material, alkali-resistant

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 ³	① DNEL worker ② Acute - inhalation, local effects
potassium hydroxide CAS No.: 1310-58-3 EC No.: 215-181-3	1 mg/m ³	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

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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

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		at °C	Method	Remark
pH	> 14	20 °C		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 ³			
Relative density	<i>not determined</i>			
Bulk density	<i>not determined</i>			
Water solubility				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.

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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.

Further information

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

SECTION 11: Toxicological information

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

Substance name	Toxicological information
potassium hydroxide CAS No.: 1310-58-3 EC No.: 215-181-3	LD₅₀ 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

No data available

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.

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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.

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

No data available

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 EEC, 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
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*: Evidence for disposal must be provided.

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)
14.1. UN number or ID number			
UN 1814	UN 1814	UN 1815	UN 1814
14.2. UN proper shipping name			
POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
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14.3. Transport hazard class(es)

 8	 8	 8	 8
--	--	--	--

14.4. Packing group

II	II	II	II
----	----	----	----

14.5. Environmental hazards

No	No	No	No
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14.6. Special precautions for user

Special provisions: Excepted Quantities (EQ): Hazard identification number (Kemler No.): Classification code: tunnel restriction code: (E) Remark:	Special provisions: Excepted Quantities (EQ): Classification code: - Remark:	Special provisions: Excepted Quantities (EQ): EmS-No.: Remark:	Special provisions: Excepted Quantities (EQ): Remark:
C5			

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

No data available

15.1.2. National regulations

 [DE] National regulations

Restrictions of occupation

22 JArbSchG.

Water hazard class

WGK:

1 - schwach wassergefährdend

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

No data available

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16.2. Abbreviations and acronyms

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

-ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route)

-CAS: Chemical Abstract Service

-CLP: Classification, labelling and Packaging

-DNEL: Derived No Effect Level

-EC50: Effective Concentration 50%

-ECHA: European Chemical Agency

-LC50: Lethal Concentration 50%

-LD50: Lethal Dose 50%

-PBT: persistent, bioaccumulative, toxic

-PNEC: Predicted No Effect Concentration

-REACH: Registration, Evaluation and Authorization of Chemicals

-SVHC: Substance of Very High Concern

-VOC: Volatile organic compounds

-vPvB: very persistent, very bioaccumulative

16.3. Key literature references and sources for data

REACH Dissemination Portal <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]

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/human experience.
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