

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No. 2015/830



KOH Solution, 3 mol/l; MOS

Material number KOH 3M

Revision date: 24/4/2018
Version: 1

Language: en-GB,IE

Date of print: 25/5/2018
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: KOH Solution, 3 mol/l; MOS

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

General use: Intermediate for electronic industry
Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company name: Allresist
Gesellschaft für chemische Produkte zur Mikrostrukturierung mbH
Street/POB-No.: Am Biotop 14
Postal Code, city: 15344 Strausberg
Germany
WWW: www.allresist.de
E-mail: info@allresist.de
Telephone: +49 (0)33 41-35 93-0
Telefax: +49 (0)33 41-35 93-29
Dept. responsible for information:
Frau Feldt, Email: doerte.feldt@allresist.de

1.4 Emergency telephone number

Telephone: +49 (0)33 41-35 93-0
Only available during office hours.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Met. Corr. 1; H290 May be corrosive to metals.
Acute Tox. 4; H302 Harmful if swallowed.
Skin Corr. 1A; H314 Causes severe skin burns and eye damage.

2.2 Label elements

Labelling (CLP)



Signal word:

Danger

Hazard statements:

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

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Precautionary statements: P234	Keep only in original packaging.
P260	Do not breathe fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
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/doctor.
P390	Absorb spillage to prevent material damage.

Special labelling

Text for labelling: Contains 17% Potassium hydroxide.

2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Potassium hydroxide solution:

Hazardous ingredients:

Ingredient	Designation	Content	Classification
REACH 01-2119487136-33-xxxx EC No. 215-181-3 CAS 1310-58-3	Potassium hydroxide	17 %	Met. Corr. 1; H290. Acute Tox. 4; H302. Skin Corr. 1A; H314.

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	If medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection!
In case of inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention.
Following skin contact:	After contact with skin, wash immediately with soap and plenty of water. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently seek the immediate attention of an ophthalmologist.
After swallowing:	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Immediately get medical attention. Do not try to neutralize.

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4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. Harmful if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

5.2 Special hazards arising from the substance or mixture

On heating or in case of fire toxic gases may form. Furthermore, there may develop: potassium compounds. Hydrogen may form upon contact with metals (danger of explosion!).

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Hazchem-Code: 2R

Use fine water spray to cool endangered containers. Do not allow water used to extinguish fire to enter drains, ground or waterways. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Avoid contact with the substance. Do not breathe fume/gas/mist/vapours/spray. Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse. Keep unprotected people away.

6.2 Environmental precautions

Do not allow to enter into ground-water, surface water or drains. If necessary notify appropriate authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Final cleaning. Never return spills in original containers for re-use. Absorb spillage to prevent material damage.

Additional information:

Special danger of slipping by leaking/spilling product.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin, eyes, and clothing. Do not breathe fume/gas/mist/vapours/spray. Wear appropriate protective equipment. When using do not eat, drink or smoke. Wash hands thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

Precautions against fire and explosion:

Usual measures for fire prevention.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

May be corrosive to metals. Keep only in original container. Keep container dry, tightly closed and store at cool and aired place.

Do not use aluminium, tin, or zinc containers. None metal container. May attack plastics. Storage temperature: 10 - 22 °C

Hints on joint storage:

Do not store together with metals, ammonium compounds or peroxides.

Avoid contact with acids, reducing agents and aldehydes.

Do not store together with halogen compounds, alcohols, hydrogen sulfide or Phosphorus compounds.

Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
1310-58-3	Potassium hydroxide	Great Britain: WEL-STEL Ireland: 15 minutes	2 mg/m ³ 2 mg/m ³

8.2 Exposure controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

Hand protection: Protective gloves according to EN 374.
Glove material: Nitrile rubber - Layer thickness: 0.11 mm.
Breakthrough time: \geq 480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

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General protection and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not breathe fume/gas/mist/vapours/spray. When using do not eat, drink or smoke.

Wash hands before breaks and after work. Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

Environmental exposure controls

Do not allow to enter into ground-water, surface water or drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Physical state at 20 °C and 101.3 kPa: liquid Colour: colourless, clear
Odour:	odourless
Odour threshold:	No data available
pH value:	at 20 °C, 56 g/L: approx. 14
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	No data available
Evaporation rate:	No data available
Flammability:	This product is non-flammable.
Explosion limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	No data available
Water solubility:	soluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	No data available
Explosive properties:	No data available
Oxidizing characteristics:	No data available

9.2 Other information

Water content: 83 %

SECTION 10: Stability and reactivity

10.1 Reactivity

May be corrosive to metals.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reaction with water or moist air. Attention! Heat development.
Hydrogen may form upon contact with light metals (danger of explosion!).

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10.4 Conditions to avoid

Protect from moisture contamination.

10.5 Incompatible materials

Ammonium compounds, anhydrides, metals, halogenated compounds, hydrogen sulfide, non-metal oxides, organic nitro compounds, phosphorus, hydrocarbons, reducing agent, peroxides, aldehydes, alcohols, acids.

10.6 Hazardous decomposition products

No hazardous decomposition products when regulations for storage and handling are observed.

Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.
Acute toxicity (oral): Acute Tox. 4; H302 = Harmful if swallowed.
ATEmix calculated: 1959 mg/kg
Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix calculated: > 5000 mg/kg
Acute toxicity (inhalative): Based on available data, the classification criteria are not met. ATEmix calculated (Vapours): > 20 mg/L
Skin corrosion/irritation: Skin Corr. 1A; H314 = Causes severe skin burns and eye damage.
Serious eye damage/irritation: Lack of data.
Sensitisation to the respiratory tract: Lack of data.
Skin sensitisation: Lack of data.
Germ cell mutagenicity/Genotoxicity: Lack of data.
Carcinogenicity: Lack of data.
Reproductive toxicity: Lack of data.
Effects on or via lactation: Lack of data.
Specific target organ toxicity (single exposure): Lack of data.
Specific target organ toxicity (repeated exposure): Lack of data.
Aspiration hazard: Lack of data.

Other information: Information about Potassium hydroxide:
LD50 Rat, oral: 333 mg/kg (OECD 425)

Symptoms

Can have a corrosive effect in the mouth and throat when swallowed.
Other symptoms: Mucous membrane irritation, death, oedema (swelling), shock, cough, shortage of breath, Danger of loss of sight!
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Harmful effects on water organisms by modification of pH-value.
Information about Potassium hydroxide:
Fish toxicity:
LC50 *Gambusia affinis* (Mosquitofish): 80 mg/L/96h (IUCLID)

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
No data available

12.4 Mobility in soil

Forms corrosive mixtures with water even if diluted.

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 06 02 04* = Sodium and potassium hydroxide, solution
* = Evidence for disposal must be provided.

Recommendation: Dispose of waste according to applicable local, state, and federal regulations governing corrosive liquids.
Do not dispose of with household waste.
Do not mix with other wastes.

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.
Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR:
UN 1814

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
UN 1814, POTASSIUM HYDROXIDE SOLUTION

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14.3 Transport hazard class(es)

ADR/RID: Class 8, Code: C5
IMDG: Class 8, Subrisk -
IATA-DGR: Class 8



14.4 Packing group

ADR/RID, IMDG, IATA-DGR:
II

14.5 Environmental hazards

Marine pollutant: no

14.6 Special precautions for user

Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 80, UN number UN 1814
Hazard label: 8
Limited quantities: 1 L
EQ: E2
Contaminated packaging - Instructions: P001 IBC02
Special provisions for packing together: MP15
Portable tanks - Instructions: T7
Portable tanks - Special provisions: TP2
Tank coding: L4BN
Tunnel restriction code: E

Sea transport (IMDG)

EmS: F-A, S-B
Special provisions: -
Limited quantities: 1 L
Excepted quantities: E2
Contaminated packaging - Instructions: P001
Contaminated packaging - Provisions: -
IBC - Instructions: IBC02
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T7
Tank instructions - Provisions: TP2
Stowage and handling: Category A.
Segregation: SG35
Properties and observations: Colourless liquid. Reacts with ammonium salts, evolving ammonia gas. Corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.
Segregation group: 18

Air transport (IATA)

Hazard label: Corrosive
Excepted Quantity Code: E2
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y840 - Max. Net Qty/Pkg. 0.5 L
Passenger and Cargo Aircraft: Pack.Instr. 851 - Max. Net Qty/Pkg. 1 L
Cargo Aircraft only: Pack.Instr. 855 - Max. Net Qty/Pkg. 30 L
Special provisions: A3 A803
Emergency Response Guide-Code (ERG): 8L

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

No data available

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SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: 2R
No data available

National regulations - EC member states

Labelling of packaging with <= 125mL content



Signal word:

Danger

Hazard statements: H314

Causes severe skin burns and eye damage.

Precautionary statements: P260

Do not breathe fume/gas/mist/vapours/spray.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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/doctor.

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 3

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Further information

Wording of the H-phrases under paragraph 2 and 3:

H290 = May be corrosive to metals.

H302 = Harmful if swallowed.

H314 = Causes severe skin burns and eye damage.

Date of first version: 24/4/2018

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.

