

# Safety Data Sheet (SDS) according to Regulation (EC) No 1907/2006 ( Amended by Regulation ( EU ) no. 453/2010 )

<b>Print date:</b>	21.12.2016	<b>Replaces Version:</b>	03.08.2016
<b>Version:</b>	02	<b>Manufacturer:</b>	GHM Messtechnik GmbH – Standort GREISINGER
<b>Trade name:</b>	KOH		

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## 1. Identification

### 1.1 Product identifier

Trade name: KOH

Index-Nr.: 019-002-00-8

EG-Nr.: 215-181-3

CAS-Nr.: 1310-58-3

REACH-Registrationno.:

A registration number for that substance is not present as the substance or its use according to Article 2 REACH Regulation (EC) No. 1907/2006 exempted from registration, requires the annual tonnage registering or registering for a later date is provided.

**Other names:** potassium hydroxide

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

Relevant identified uses:

Replenishing the oxygen electrode of the type GWO ....

Uses advised against:

other uses

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

#### Supplier

GHM Messtechnik GmbH, Standort GREISINGER

#### Address

Hans-Sachs-Straße 26

93128 Regenstauf

Germany

#### Contact for technical information

Section production

#### Telephone / fax / e-mail

++49-9402-9383-0 / ++49-9402-9383-33/ info@greisinger.de

### 1.4 EMERGENCY TELEPHONE NUMBER

Poison Centre Munich

Phone: + 49 / (0) 89 19240

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## 2. Hazard(s) identification

### 2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008, Annex VII (substances):  
Met. Corr.1 H290 May be corrosive to metals.  
Skin Corr. 1A H314 Causes severe skin burns and eye damage.  
Acute Tox. 4 H302 Harmful if swallowed.

Classification according to Directive 67/548 / EEC or Directive 1999/45 / EC (substances or mixtures):  
C; Corrosive; R35: Causes severe burns.  
Xn; Harmful; R22: Harmful if swallowed

### 2.2 Label elements

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

The substance is classified and labeled according to the CLP Regulation.

#### Hazard pictograms:



GHS05

GHS07

#### Signal word:

Danger

#### Hazard statements / Risk phrases

R 35 causes severe burns

#### Safety instructions / S-phrases

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S 27 Take off immediately all contaminated clothing.  
S 28 After contact with skin, wash immediately with plenty of water.  
S 29 Do not empty into drains.  
S 36 Wear suitable protective clothing.  
S 37 Wear suitable gloves.  
S 39 Wear eye/face protection  
S 41 In case of fire and/or explosion do not breathe fumes.  
S 44 In case of accident or if you feel unwell seek medical advice immediately  
S 46 If swallowed, seek medical advice immediately and show this container or label.

#### Hazard statements

H 290 May be corrosive to metals.  
H 302 Harmful if swallowed.  
H 314 Causes severe skin burns and eye damage.

### 2.3 Other hazards

All chemicals are potentially dangerous. They are therefore by properly trained personnel to handle with care.

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## 3. Composition/information on ingredients

### 3.1 Substances

not applicable

### 3.2 Mixtures

Chemical: potassium hydroxide  
EC-No .: 215-181-3 CAS no. : 1310-58-3  
Index No .: 019-002-00-8 REACH registration .: 01-2119487136-33-XXXX  
Level: 7 %  
Classification according to Directive 67/548 / EEC:  
Skin corrosion, Category 1A, H314  
Acute toxicity, Category 4, Oral, H302  
Corrosive to metals, Category 1, H290

Chemical: Water  
EG-Nr.: 231-791-2 CAS-Nr. : 7732-18-5  
Level: Remain

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## 4. First aid measures

### 4.1 General information:

**After inhalation:**

Fresh air. Call a medic.

**After skin contact:**

Wash with plenty of water. Immediately remove contaminated clothing.

**After eye contact:**

With plenty of water with eyelid open, rinse (min.10 min.).

Consult an ophthalmologist immediately.

**After swallowing:**

Drink water, avoid vomiting (risk of perforation!). Call a physician immediately. No attempt to neutralize.

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

Irritation and corrosion

Risk of blindness!

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

No further relevant information available.

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## 5. Fire-fighting measures

### 5.1 Extinguishing media:

Match on environment.

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

Non-flammable. Ambient fire emergence of dangerous vapors.

### 5.3 Advice for firefighters

Stay in danger zone only with suitable chemical protection clothing and self-contained breathing apparatus.  
Prevent fire-fighting water from entering surface water or groundwater.

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## 6. Accidental release measures

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

Avoid substance contact. Do not inhale vapors / aerosols.

### 6.2 Environmental precautions

Do not empty into drains.

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

Take up with liquid-absorbent material. Dispose properly. Clean up diligently.

### 6.4 Reference to other sections

See sections 8 and 13

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## 7. Handling and storage

### 7.1 Precautions for safe handling

**Measures to prevent dusts and aerosols, measures to protect the environment, General hygienic measures**

Tightly closed. Dry. At + 15 ° C to + 25 ° C.

Store away from foodstuffs.

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

**Technical measures and storage conditions:**

Tightly closed. Dry. At + 15 ° C to + 25 ° C.

**Requirements for storage rooms and vessels:**

No aluminum, tin or zinc containers.

**Storage class:** VCI 8B

### 7.3 Specific end uses:

no specifications

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## 8. Exposure controls/personal protection

### 8.1 Control parameters

**8.1.1 Occupational exposure limits:**  
not applicable

### 8.2 Exposure controls

**8.2.1 Appropriate engineering controls:**  
see Section 7

### 8.2.2 Personal protective equipment:

#### **General safety and hygienic measures:**

Do not eat, drink or smoke at work.  
Keep away from food.  
Take off dirty, soaked clothes immediately.  
Wash hands before breaks and at end of work. Avoid contact with eyes and skin.

#### **Eye / Face protection:**

Tightly sealed goggles

#### **Skin protection:**

##### **Gloves**

For full and splash contact:  
Glove material: nitrile rubber  
Thickness (mm): Thickness 0,11mm  
Penetration time (min.):> 480 minutes of

##### **Other skin protection**

Body protection must be chosen depending on risk concentration and amounts of specific workplaces. The resistance of the protective equipment should be inquired at the respective supplier.  
Change contaminated clothing. Preventive skin protection recommended. After finishing work wash and face.

#### **Breathing protection:**

required when vapors / aerosols

#### **Heat / cold protection:**

not applicable

**8.2.3 Environmental exposure controls:**  
not applicable

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## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	
- Form:	liquid
- Colour:	colorless
Odour:	odourless
Odour threshold:	not applicable
pH :	ca. 14 (bei 20°C)
Melting point/freezing point:	not available
Initial boiling point/boiling range	not available
Flash point	not available
Evaporation rate	not available
Flammability (solid, gas):	The product is not flammable.
Upper / lower explosive limits	not available
Vapour pressure	not available
Vapour density	not available
Relative density	1.05 g/cm <sup>3</sup> (at 20°C)
Solubility(ies)	soluble
Partition coefficient :	not available
n-octanol/water	
Auto-ignition temperature	not available
Decomposition temperature	not available
Viscosity	not available
Explosive properties	The product is not explosive.
Oxidising properties	not available

### 9.2 Other information:

not specified

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## 10. Stability and reactivity

### 10.1 Reactivity

see 10.3

### 10.2 Chemical stability

No decomposition if stored and handled.

### 10.3 Possibility of hazardous reactions

Metals, light metals, ammonium compounds, alkaline earth metals, halogens, halogen-halogen compounds, halogenated hydrocarbons, nonmetallic halides, halogen oxides, organic nitro compounds, phosphorus, nonmetallic oxides, hydrocarbons, anhydrides, strong acids.

### 10.4 Conditions to avoid

not specified

### 10.5 Incompatible materials

incompatible with metals, animal / vegetable tissues, various plastics, glass.

### 10.6 Hazardous decomposition products

Metals, light metals: formation of hydrogen  
Ammonium compounds: Formation of: ammonia

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## 11. Toxicological information

### 11.1 Information on toxicological effects

For mixtures the following effects

**Acute toxicity**

LD50 (oral, rat): 273 mg / kg (calculated on the pure substance)

**Irritation**

Strong caustic effect on skin and mucous membranes.

**Corrosivity**

After inhalation: burns. Inhalation may cause edema in the respiratory tract.

After skin contact: burns. Drying-out effect resulting in rough and chapped skin.

After eye contact: burns. Risk of blindness! Risk of corneal clouding.

After swallowing: burns (pain, collapse). Burns in esophagus and stomach. Risk of perforation in the esophagus and stomach.

**Sensitizing**

No sensitizing effects known.

**Repeated dose toxicity**

No known significant effects or critical hazards.

**Carcinogenicity**

No known significant effects or critical hazards.

**Mutagenicity**

No known significant effects or critical hazards.

**Reproductive toxicity**

No known significant effects or critical hazards.

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## 12. Ecological information

### 12.1 Toxicity

Biological effects: Harmful to aquatic organisms. Harmful effect due to pH -shift.

Even in diluted caustic.

Fish toxicity: *Gambusia affinis* LC50: 80 mg/l / 24 h (calculated on the pure substance)

### 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

not applicable

### 12.6 Other adverse effects

Do not flush into surface waters, wastewater, or soil!

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## **13. Disposal**

### **13.1 Waste treatment methods**

#### **Treatment of contaminated packaging**

Chemicals must be disposed of in compliance with the respective national regulations.

#### **Waste code according to European Waste Catalogue (EWC)**

This material and its container must be disposed of as hazardous waste.

The disposal is regionally differently regulated and, therefore the kind of disposal is in the local authorities (City Hall) to check.

The assignment of a waste code according the European Waste Catalogue (EWC) is carried out in agreement with the regional disposer.

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## **14. Transport**

### **14.1 UN-Nummer**

UN 1814 potassium hydroxide solution, 8, II

### **14.2 UN proper shipping name**

ADR/RID

UN 1814 potassium hydroxide solution, 8, II

IMDG-Code / ICAO-TI / IATA-DGR

UN 1814 potassium hydroxide solution, 8, II

EmS: F-A S-B

### **14.3 Transport hazard class**

ADR: 8 Corrosive substances

ADR, IMDG, IATA: II

### **14.4 Packing group**

packing group III

### **14.5 Environmental hazards**

Plate environmentally hazardous substances

ADR/RID / IMDG-Code / ICAO-TI / IATA-DGR:  ja /  nein

Marine Pollutant:  yes /  no

### **14.6 Special precautions for user**

no

### **14.7 Bulk according to Annex II of MARPOL 73/78 and the IBC Code**

no mass transport provided

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## 15. Regulatory information

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

#### National regulations for germany e. g.

Restriction of occupation:

Employment restrictions for expectant and nursing mothers (MuSchArbV).

Observe employment restrictions for young people according to § 22JArbSchG.

### 15.2 Chemical Safety Assessment:

A chemical safety assessment was not carried out.

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## 16. Other information

### 16.1 Changes since the last version

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### 16.2 Shortcuts:

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LD50: Lethal dose, 50 percent (not the classification is relevant)  
LC50: Lethal concentration, 50 percent (not the classification is relevant)

### 16.3 Further information

This information is based on the present state of our knowledge, however, offers no assurance of product properties and establishes no contract legal rights.

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