



# EU Material Safety Data Sheet

According to Directive 1907/2006/EG, Article 31

Printout date: 12.05.2010

Doc. 16450 Rev. 2 / 10.01.2010

## Trade name: BRIGON CO<sub>2</sub> Measuring liquid 0 < 25 %

### \* 1. Identification of the substance/preparation and of the company

Identification of the product:

Trade name: BRIGON CO<sub>2</sub> measuring liquid  
 Chemical composition: Potassium hydroxide ≥5<25%  
 Recommended application: in mechanical measuring equipment for flue gas analysis to determine/calculate CO<sub>2</sub> concentration in flue gas

Company details: BRIGON Messtechnik GmbH  
 Kronberger St. 11, 63110 Rodgau, Germany  
 Tel.: +49-(0)6106-8207-0  
 Fax: +49-(0)6106-8207-40  
 E-mail: [info@brigon.de](mailto:info@brigon.de)

Emergency telephone: Poison emergency centre Mainz  
 Langenbeck St. 1, 55131 Mainz  
 Tel.: +49-(0)6131-19240

### \* 2. Hazards identification

Hazard description:



C Corrosive

**Other human health and environmental effects:**

The product is subject to obligatory labelling according to TRGS in the most recent version.

**Risk Phrases:** R 35: Causes severe caustic burns

### \* 3. Composition / Information on ingredients

**Description:** potassium hydroxide aqueous solution (caustic potash solution)

Dangerous substances:			
CAS: 1310-58-3	Potassium hydroxide	 C;  R 22-35	5-25%
EINECS: 215-181-3			

**Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4. First aid measures

**General information:** Immediately remove any clothing soiled by the product

**After eye contact:** Rinse opened eye for several minutes under running water and consult a doctor immediately.

**After skin contact:** Wash with water and soap and rinse thoroughly. Immediate qualified medical help is necessary, as untreated caustic burns prevent wounds from healing.

**After swallowing:** Rinse out mouth with water and drink plenty of water, get qualified medical attention. Do not induce vomiting.

**After inhalation:** Remove from exposure, supply fresh air. Get qualified medical help.

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### 5. Fire fighting measures

**Suitable extinguishing media:** Appropriate to other materials involved in and/or to the surrounding conditions, for example foam, fog, fire extinguishing powder.

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:** None, as product is not combustible.

**Protective equipment:** wear self contained breathing apparatus if necessary.

**Additional information:** Collect contaminated fire fighting water separately. It must not penetrate the sewage system.

### \* 6. Accidental release measures

#### Personal precautions:

Wear protective clothing. Keep unprotected persons away from the working area. Avoid skin and eye contact, do not inhale fumes/gases. Particular danger of slipping on leaked/spilled product. Secure fresh air supply in closed room.

#### Environmental precautions:

Prevent from penetrating sewage/surface water/ground water. Prevent from penetrating the ground/soil. In case of spillage or penetration of sewage/ground waters contact local authorities.

#### Methods for cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust, etc.). Dispose of contaminated material as waste according to item 13. Secure sufficient fresh air supply.

### 7. Handling and storage

#### Handling:

##### Precautions for safe handling:

Open and handle container with care. Spilled substance causes danger of slipping. Avoid skin and eye contact. Prevent aerosol formation. Ensure good ventilation of working area.

##### Fire and explosion precautions:

The product is not combustible.

#### Storage:

##### Conditions for safe storage:

Use only containers, specially approved for the product. Observe mandatory requirements of the local water law.

**Information on incompatible materials or storage conditions:** Do not store together with acids.

##### Additional information on storage conditions:

Keep contained sealed. Protect from frost.

### \* 8. Exposure controls/ personal protection equipment

**Information on design of technical facilities:** No further data; see item 7

#### Occupational exposure limits:

1310-58-3	Potassium hydroxide
WEL	Short-term value: 2 mg/m <sup>3</sup>

**Additional information:** Above data is based on the lists valid at the moment of MSDS revision.

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### Personal protection:

**General protective and hygienic measures:** Remove soiled and contaminated clothing immediately. Do not inhale gases/fumes/aerosols. Avoid skin and eye contact. Wash hands before breaks and at the end of work. Keep away from foodstuff, beverages and feeds. Do not eat, drink, smoke, sniff while working.

**Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation or when aerosol/mist is formed, for example Particle filter P2.

**Hands protection:** Alkaline resistant gloves. Glove material has to be impermeable and resistant to the product/substance/ preparation.

**Glove material:** Appropriate gloves are to be selected not only out of material quality reasons, but also reviewing other quality characteristics, which vary from manufacturer to manufacturer. Recommended material natural rubber (latex), PVC, fluor rubber (viton), butyl rubber, acrylic rubber. Not to use are textile and leather gloves.

**Penetration time of gloves material:** The exact penetration time for gloves material must be provided by the manufacturer.

**Eyes protection:** Sealed safety goggles and face mask.

**Body protection:** Alkaline resistant protective clothing.

## \* 9. Physical and chemical properties

### General information:

Form: fluid  
 Colour: red  
 Odour: odourless

pH-value (20 °C): >13  
 Freezing point: no data available  
 Boiling point: no data available  
 Flash point: no data available  
 Flammability: not applicable  
 Explosive properties: not applicable  
 Solubility in water: complete  
 Density (20 °C): no data available

## 10. Stability and Reactivity

**Conditions to avoid:** Stable under conditions given in item 7.

**Materials to avoid:** acids; metals as aluminium, magnesium, zinc

**Hazardous reactions:** Heating occurs by adding water. Reacts with base metals by forming hydrogen. Strong exothermal reaction with acids.

**Hazardous decomposition products:** hydrogen

## \* 11. Toxicology

### Acute toxicity:

LD/LC50 values	1310-58-3	potassium hydroxide	
Oral (LD <sub>50</sub> ):	365 mg/kg	Species: rat	Source: RTECS

### Primary irritation effects:

**on skin:** strong caustic effect on skin and mucosas

**on eye:** strong caustic effect

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**Sensibilization:** no sensitising effects known

**Additional toxicological information:** Caustic. By ingestion may cause irritation of mouth and throat. Ingestion in quantity may cause perforation of esophagus and alimentary tract.

### \* 12. Ecological Information

**Ecotoxicity:**

Harmful for fish, plankton and algae due to shifting of pH-value. Does not cause biological oxygen consumption. No hindrance of waste water bacteria activity after neutralization.

**Persistence and degradability:**

Inorganic product; can not be eliminated from water by biological cleaning process.

**General information:**

Water hazard class 1 (according to German regulation VwVwS): slightly hazardous for water.

Do not allow undiluted product or large quantities of it reach ground water, water course or sewage system.

### \* 13. Disposal

**Product:**

**Recommendation:**

Must not be disposed together with household waste. Do not dispose into a sewage system. To be disposed in accordance with local environmental regulations. Contact the manufacturer for recycling information.

**European waste catalogue:**

Waste code numbers classification (EWC) according to EAK Directive must be applied for specified industrial branches and processes.

**Contaminated packaging:**

**Recommendation:**

Contaminated packaging is to be emptied thoroughly. They may be recycled after the proper cleaning. Otherwise contaminated containers must be disposed of as hazardous waste.

### 14. Transport information

**Road transport (ADR/RID):**

ADR/RID class:	8 (C5) Corrosive substances
Kemler code:	80
UN number:	1814
Packaging group:	II
Hazard label:	8
Limited quantity:	LQ 22
Description of goods:	Potassium hydroxide solution



**Maritime transport (IMDG):**

IMDG class:	8
UN number:	1814
Label:	8
Packaging group:	II
EmS number:	F-A, S-B
Marine pollutant:	no
Proper shipping name:	Potassium hydroxide solution



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### Air transport (ICAO-TI/IATA-DGR):

ICAO/IATA class:	8
UN number:	1814
Label:	8
Packaging group:	II
Proper shipping name:	Potassium hydroxide solution



## \* 15. Regulatory information

### Labelling according to the EU Directives:

The product is classified and labelled according to the EU Directives/Hazardous Substances Ordinance.

### Label, code and hazard identification of the product:



C Corrosive

**Hazard classifying components for labelling:** potassium hydroxide

### Risk phrases:

R 35: Causes severe burns.

### Safety phrases:

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39: Wear suitable protective clothing, gloves, eye/face protection.

S45: In case of accident or if you feel unwell, seek medical advice immediately.

### National regulations:

**Water hazard class:** 1 (according to German regulation VwVwS): slightly hazardous to water

## \* 16. Other information

The above information is to be the best of our present knowledge. However it implies no representations or warranties for the product, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein and constitutes no legally valid contractual relationship. Therefore BRIGON Messtechnik will not be responsible for claims or damage resulting from handling, use, transport, storage or disposal of the product. This MSDS can be used for a.m. product only. If the substance is used as a component for other products, this MSDS might become invalid.

### Relevant R-phrases:

The(se) R-phrases are those of the ingredient(s) and do(es) not represent the classification of the preparation and/or the product in the application concentration.

22 Harmful if swallowed.

35 Causes severe burns.

**Contact:** Sales

### \* Revised information