

**1. Identification of the Substance or Preparation and of the Company**

- **Indications on the production: Battery fluid, alkaline**
- **Use of the product:** Battery liquid is necessary for the operation of alkaline NiCd accumulators
- **Manufacturer / Supplier:**  
GAZ Geräte- und Akkumulatorenwerk Zwickau GmbH  
P.O. Box 200457  
08004 Zwickau ,  
GERMANY  
Tel.: +49 375 86-0
- **24 Hr. Emergency Assistance call: +49 / (0)700 24112112 (contact ID: GAZ)**
- **For USA deliveries: +49 / (0)700 24112112 (contact ID: GAZ)**  
+ 1 872 5888 271 (kontakt ID: GAZ)
- 

**2. Possible dangers:**

**GHS hazard identification**



**Signal word:** "Danger"

**Hazard warnings - H-phrases**

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

**Safety notes - P-phrases**

P280 Wear protective gloves/protective clothing/eye protection/face protection  
P301+P330+P331 If swallowed: Rinse mouth. Do not induce vomiting.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P309+P311 If exposed or if you feel unwell: Immediately call a poison centre or doctor/physician.

Complete wording of H, P, -phrases see item 16

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**3. Composition/indication on components**

**Chemical characterisation:**  
Aqueous solution

**Dangerous ingredients:**

| Name                | chem. formula | EINECS number | CAS number | Components . % | Classif. acc. to 67/548/EWG | Classif. acc. to 1272/2008/EG                                |
|---------------------|---------------|---------------|------------|----------------|-----------------------------|--|
| Potassium hydroxide | KOH           | 215-181-3     | 1310-58-3  | approx. 22     | Xn; R22<br>C; R35           | Met.Corr.1: H290<br>Acute Tox.4: H302<br>Skin Corr.1A : H314 |
| Lithium hydroxide   | LiOH          | 215-183-4     | 1310-65-2  | approx. 0.7    | see above                   | see above see above  |
| Dest. water         |               |               |            |                | not classified              |  |

Complete wording of H, P, R, S-phrases see item 16.

**4. First aid measures:**

- **General notes:**  
Immediately remove clothes contaminated with battery liquid
- **After inhalation:**  
Fresh air or oxygen supply; seek medical aid.
- **After skin contact:**  
Immediately wash with plenty of water.  
Seek medical attention.
- **After eye contact:**  
Rinse the open eyes immediately with plenty of water for at least 10 minutes.  
After that, immediately seek medical advice (eye specialist).
- **After ingestion:**  
Rinse mouth and drink plenty of water.  
Do not induce vomiting, seek medical advice immediately.

**5. Fire fighting measures**

5.1 Suitable extinguishing media:  
Use fire fighting measures that suit the environment.

5.2 Special dangers  
inflammable

5.3 Special protective equipment  
Protective suit, independent respiratory protection

**6. Accidental release measures**

Avoid substance contact.  
Rinse spilled electrolyte with plenty of water. Prevent the danger of skidding.  
Contain bigger amounts and pump into containers; absorb the rest with absorbent material and dispose of properly. Rinse smaller amounts with water. Dispose of waste water properly.

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**7. Handling and storage**

Provide a good ventilation of the working room.  
Provide an alkaline-resistant floor covering.  
Open and handle the container with care.  
Provide washing facilities or eye washes.  
Store in a dry place

**8. Exposure controls / personal protection**

**Components with critical values that require monitoring at the workplace:** Not required  
**General protection and hygienical measures/personal protection equipment:**  
Immediately remove contaminated, soaked clothes.  
Wash hands before breaks and end of work.  
Avoid contact to skin and eyes.  
During work always wear safety glasses and protective gloves (nitrile rubber).

**9. Physical properties**

|                                       |                                |
|---------------------------------------|--------------------------------|
| <b>- General indications</b>          |                                |
| Form:                                 | liquid                         |
| Colour:                               | colourless                     |
| <b>- Melting point/melting range:</b> | not applicable                 |
| <b>- Boiling point/boiling range:</b> | approx. 106 °C                 |
| <b>- Flash point/melting range:</b>   | not applicable                 |
| <b>- Flammability:</b>                | The substance is not flammable |
| <b>- Danger of explosion:</b>         | not explosive                  |
| <b>- Density at 20°C:</b>             | 1.20 g/cm <sup>3</sup>         |
| <b>- Solubility in water:</b>         | not applicable                 |
| <b>- pH value at 20°C:</b>            | ~ 14                           |

**10. Stability and reactivity:**

10.1 Conditions to be avoided  
No relevant information available

10.2 Materials to be avoided  
Light metals, hydrocarbons, acids, halogens, phosphor, alkaline earth metals, non-metallic oxides

10.3 Dangerous decomposition products  
No dangerous decomposition products known

**11. Information on toxicology:**

|                     |                    |           |
|---------------------|--------------------|-----------|
| Potassium hydroxide | LD50 / oral / rat: | 273 mg/kg |
| Lithium hydroxide   | LD50 / oral / rat: | 210 mg/kg |

**Primary irritant effect:**

**On the skin:** Strong caustic effect on skin and mucous membranes.

**In the eye:** Conjunctive burns

**After inhalation:** Chemical injury of mucous membranes, cough, shortness of breath, pulmonary oedema

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**12. Information on ecology:**

- **Indications on elimination (persistence and degradability):**  
Potassium hydroxide is degraded by reaction with the carbon monoxide in the air.
- **Behaviour in environmental compartments:**  
Potassium hydroxide is water-soluble. It has only a reduced bio-accumulation potential. Mobility in soils: high  
Liquid with low volatility.
- **Ecotoxic effect:** Can be harmful to vegetation.  
**Aquatic toxicity:**  
Harmful to fish  
pH values  $\geq 10.5$  can kill fish and other aquatic organisms.  
Causes severe damage to aquatic plants.  
High concentrations have severe harmful effects on sewage treatment plants.
- **General notes:**  
Do not allow to run into surface waters, waste water, or soil.  
Water hazard class 1 (self-classification): Slightly water hazardous

**13. Note on disposal:**

**Product:**

**Recommendation:**

The product must be disposed off according to the corresponding national regulations

**Uncleaned packaging:**

**Recommendation:**

Disposal according to the national regulations

Packages which cannot be cleaned are to be disposed off in the same manner as the product.

**14. Transport regulations:**

- **Land transport ADR / RID and GGVS / GGVE (cross-border / inland):**
- **ADR / RID – GGVS / E class** 8
- **Kemler number:** 80
- **UN number:** 2797
- **Denomination of the goods:** Battery fluid, alkaline
  
- **Marine transport IMDG / GGVSee:**
- **IMDG / GGVSee class:** 8
- **UN number:** 2797
- **Packing group:** II.
- **EMS number:** F-A , S-B
- **Correct technical name:** Battery fluid, alkaline
  
- **Air transport ICAO – TI and IATA – DGR:**
- **ICAO / IATA class:** 8
- **UN /ID number:** 2797.
- **Packing group:** II.
- **Correct technical name:** Battery fluid, alkaline

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**15. Regulations:**

- **National regulations:** VwVwS, German Regulation on Substances Hazardous to Water
- **Classification according to regulation for industrial safety:**
- **Water hazard class:** WGK 1 (list classification): Slightly water hazardous.

**16. Miscellaneous indications:**

**Complete wording of H, P, R, S-phrases**

H290 May be corrosive to metals.

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

P260 Do not breathe dust/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.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P309+P311 If exposed or if you feel unwell: Immediately call a poison centre or doctor/physician.

P303+P361+P353 If on skin: Remove/Take off immediately all contaminated clothing.

Rinse skin with water/shower.

The specifications rest on the today's stand of our knowledge, they show in particular no assurance of product features and justify no contractual legal relationship.