

Trade name: Dry electrolyte, alkaline

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

- **Indications on the production: Dry electrolyte, alkaline (Mixture of KOH and LiOH x H₂O)**
- **Use of the product:** Production of battery fluid 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

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

Safety notes - P-phrases

Safety notes – prevention

P261 Avoid breathing dust.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/eye protection.

Safety notes – reaction

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor/...

Complete wording of H- & P-phrases see section 16.

Trade name: Dry electrolyte, alkaline

3. Composition/indication on components

Chemical characterisation:

Mixture

Dangerous ingredients:

Name	chem. formula	EINECS number	CAS number	Components in %	Classif. acc. to 1272/2008/EG
Potassium hydroxide	KOH	215-181-3	1310-58-3	approx. 97	Met.Corr.1: H290 Acute Tox.4: H302 Skin Corr.1A: H314
Lithium Hydroxide - Monohydrat	LiOH x H ₂ O	215-183-4	1310-65-2	approx. 3	Acute Tox.3: H301 Acute Tox.3: H331 Skin Corr.1A: H314

Complete wording of H- & P-phrases see section 16.

4. First aid measures:

4.1. Description of first aid measures:

- **General information:**
First aider has to protect himself.
- **Following inhalation:**
Fresh air or oxygen supply; seek medical aid.
- **Following skin contact:**
Immediately remove clothes contaminated with product. Immediately wash with plenty of water. Seek medical attention.
- **Following eye contact:**
Rinse the open eyes immediately with plenty of water for at least 10 minutes. After that, immediately seek medical advice (eye specialist). Remove contact lenses.
- **Following ingestion:**
Rinse mouth and drink water (maximum 2 drinking glasses). Do not induce vomiting, seek medical advice immediately. Do not attempt to neutralize.

4.2. Most important symptoms and effects, both acute and delayed:

Risk of blinding. Irritation and corrosivity, cough and respiration distress.

4.3. Indication of any immediate medical attention and special treatment needed:

No information available.

5. Firefighting measures

5.1 Suitable extinguishing media:

Use fire fighting measures that suit the environment.

5.2 Special dangers

inflammable, formation of strong lye in conjunction with water

5.3 Special protective equipment

Protective suit, independent respiratory protection

Trade name: Dry electrolyte, alkaline

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures.

For non-emergency personal:

Avoid substance contact. Avoid dust formation. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For emergency responders:

Protective equipment: see section 8.

6.2. Environmental precautions:

Do not allow to flow off into the sewage lines/surface water/ground water.

6.3. Methods and material for containment and cleaning up:

Seal the sewage. Contain the spread of large quantities and pump these off into suitable receptacles (comply with sections 7 and 10). Take up dry and dispose of. Avoid development of dust.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Observe label precautions.

Advice on general occupational hygiene:

Immediately change contaminated clothing. Protect skin. Wash hands and face after working with substance.

7.2. Conditions for safe storage, including any incompatibilities:

Requirements for storage rooms and vessels:

Inappropriate container material: Aluminium, tin and zinc. No metal vessels.

Hints on storage assembly:

Tightly closed. Store in a dry place. Recommended storage temperature: see product label.

8. Exposure controls / personal protection

8.1. Components with critical values that require monitoring at the workplace:

Not required

8.2. Exposure controls:

Appropriate engineering controls:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal protective equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection:

Use tightly fitting safety glasses.

Hand protection:

- by long-term hand contact:

Suitable material: nitrile rubber

Thickness of the material: 0.11mm

Breakthrough time: > 480min

- by short-term hand contact:

Trade name: Dry electrolyte, alkaline

Suitable material: nitrile rubber
 Thickness of the material: 0.11mm
 Breakthrough time: > 480min

Body protection:
 Protective clothing.

Respiratory protection:
 Required when dusts are generated. Recommended type of filter: 2P. The employer shall ensure that maintenance, cleaning and testing of respiratory protective devices are carried out and documented according to the instructions of the producer.

Environmental exposure controls:
 Make sure that the material cannot leak into the sewage system, waters or soil.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Form:	solid
Colour:	colourless
Odour:	odourless
pH value:	approx. 14 at 56g/l at 20°C
Melting point/melting range:	360°C
Boiling point/boiling range:	1320°C at 1013hPa
Flash point:	N/A
Flammability:	not flammable
Danger of explosion:	N/A
Vapour pressure:	N/A
Density:	2.04 g/cm ³ at 20°C
Solubility in water:	1120 g/l at 20°C
Auto-ignition temperature:	No information available.
Decomposition temperature:	No information available.
Explosive properties:	not explosive
Oxidising properties:	none

9.2. Other information

Flash point:	N/A
Caustic effect:	May be corrosive to metals.

10. Stability and reactivity:

10.1. Reactivity:

Exothermic release process with water.

10.2. Chemical stability:

The mixture is chemical stable under normal ambient conditions of temperature.

10.3. Possibility of hazardous reactions:

Danger of explosion with:

Tetrahydrofuran, peroxide, sodium azide, benzoyl chloride, calcium powdered form, carbide, chlorine, halide oxides, organic nitro compounds, phosphorus, non-metallic oxides, chlorine dioxide, fluorine, magnesium, nitroso compounds, nitrogen trichloride.

Exothermic reaction with:

Acetonitrile, acroline, aldehyde, alcohol, acetic acid, halogenated hydrocarbons, halogen-halogen compounds, peroxide, hydrogen sulphide, hydrogen peroxide, vinyl acetate, reducing agent, acid, acid chloride, acid anhydride,

Trade name: Dry electrolyte, alkaline

peroxy compounds, methanol, chloroform.

Risk of ignition or emergence of flammable gases or vapours with:

Aluminium, ammonium salt, germanium, anhydride, phosphorus oxide, azide, lead, copper, copper alloy, tin, zinc.

Release of:

Hydrogen.

10.4. Conditions to avoid:

NIL

10.5. Incompatible materials:

Animal or plant tissues, glass, different plastics, metals.

10.6. Hazardous decomposition products:

NIL

11. Toxicological information:

Acute oral toxicity:

Potassium hydroxide LD50 / oral / rat: 273 mg/kg

Lithium hydroxide LD50 / oral / rat: 210 mg/kg

Symptoms: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Acute inhalational toxicity:

Symptoms: Chemical burns of mucous membranes, cough, shortness of breath.

Possible consequences: damage of the respiratory tract/system.

Acute dermal toxicity:

NIL

Skin irritation:

Rabbit Result: causes burns.

(IUCLID)

In vitro study Result: caustic.
OECD test guideline 431
Causes severe burns.

Eye irritation:

Rabbit Result: causes serious eye damage.

OECD test guideline 405

Causes serious eye damage. Risk of blinding.

Sensitization:

Sensitization test: guinea pigs

Result: negative.

(IUCLID)

Germ cell mutagenicity:

Genotoxicity in vitro

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative.

Carcinogenicity:

No information available.

Reproductive toxicity:

No information available.

Teratogenicity:

Trade name: Dry electrolyte, alkaline

No information available.

Specific Target Organ Systemic Toxicity (single exposure):

No information available.

Specific Target Organ Systemic Toxicity (repeated exposure):

No information available.

Aspiration hazard:

No information available.

12. Ecological information:

12.1. Toxicity

Fish toxicity

LC50 *Gambusia affinis*: 80 mg/l; 96 h
(IUCLID)

12.2. Persistence and degradability

Biodegradation

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

12.3. Bioaccumulative potential

Based on the n-octanol/water partition coefficient accumulation in organisms is not applicable.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Not applicable to inorganic substances.

12.6. Other adverse effects:

Additional ecotoxicological information:

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Neutralization possible in waste water treatment plants.

Emission into the environment must be prevented.

Water hazard class 1 (list classification): slightly water endangering.

13. Disposal considerations

Waste treatment methods:

Hazardous waste according to Directive 2008/98/EC (waste framework directive).

Product:

Recommendation:

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

Uncleaned packaging:

Recommendation:

Disposal according to the national regulations.

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

Trade name: Dry electrolyte, alkaline

14. Transport regulations:

- UN N^o 3262
- **Land transport ADR / RID and GGVS / GGVE (cross-border / inland):**
- **ADR / RID – GGVS / E class:** 8
- **Kemler number:** 80
- **UN number:** 3262
- **Denomination of the goods:** Corrosive material, alkaline, inorganic, n.o.s.
- **Marine transport IMDG / GGVSee:**
- **IMDG / GGVSee class:** 8
- **UN number:** 3262
- **Packing group:** II.
- **Correct technical name:** Corrosive material, alkaline, inorganic, n.o.s.
- **Air transport ICAO – TI and IATA – DGR:**
- **ICAO / IATA class:** 8
- **UN /ID number:** 3262
- **Packing group:** II.
- **Correct technical name:** Corrosive material, alkaline, inorganic, n.o.s.

15. Regulatory information:

- **National regulations:** VwV WGK-Einstufung, List for declaration of substances regarding its hazard to water
- **Classification according to regulation for industrial safety:**
- **Water hazard class:** WGK 1 (list classification): Slightly water endangering.

16. Miscellaneous indications:

Complete wording of the hazard phrases from section 2 and 3:

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

Training instruction:

Provide adequate information, advise and training for users.

Labelling:

Hazard pictogram:



Signal word:

Danger.

Hazard notes:

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

Safety notes – prevention

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safety Data Sheet

According to Regulation (EC) Nr. 1907/2006 (REACH),

Revision date: 11-10-2021

Trade name: Dry electrolyte, alkaline

Page 8 of 8

Safety notes – reaction

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/...

Disclaimer:

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. 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.