



# SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

## Electrolyte

Version number: 3

Replaces SDS: 2015-07-23

Issued: 2015-12-17

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

**Trade name** Electrolyte

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

**Use** Electrolyte for industrial Ni-Cd-batteries.

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

**Supplier** Saft AB

**Street address** Box 709  
S-572 28 Oskarshamn  
Sweden

**Telephone** +46 491 68000

**Fax** +46 491 68180

**Emergency phone number** +46 491 68075

### 1.4 Emergency telephone number

**Available outside office hours** Yes

**Emergency phone number** 911 / 112

### Other

Chemtrec US service within the USA: + 800 424 93 00 / outside US: + 1 202 483 7616

## SECTION 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008, Annex VI

**Classification** Skin corrosion, hazard category 1A  
Corrosive to metals, hazard category 1  
Acute toxicity, oral, hazard category 4

**Hazard statements** H290, H302, H314

### 2.2 Label elements



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**GHS labeling of the substance (in accordance with Regulation (EC) No 1272/2008, Annex VI)**

**Pictogram**



**Signal word**

Danger

**Hazard statements**

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

**Precaution statements**

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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
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 or /doctor/physician

**2.3 Other hazards**

Not applicable

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

<b>Chemical name</b>	<b>CAS No. EC No. REACH No.</b>	<b>Concentration</b>	<b>Classification</b>	<b>H-phrase</b>
Potassium hydroxide	1310-58-3 215-181-3 01-2119487136-33-	18 - 30%	Skin Corr. 1A, Met. Corr. 1, Acute Tox. 4 - oral	H290, H302, H314
Lithium hydroxide	1310-65-2 215-183-4 01-2119560576-31-	1 - 2,5%	Skin Corr. 1A, Met. Corr. 1, Acute Tox. 4 - oral	H290, H302, H314

**Product based on**

Water solution including the above hazardous substances

**Substance additional information**

For the full text of the H phrases mentioned in this Section, see Section 16.

**SECTION 4. FIRST AID MEASURES**



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*4.1 Description of first aid measures*

Take off all contaminated clothing immediately.

<b>Inhalation</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Contact your doctor immediately.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical treatment necessary as untreated skin corrosions are slow and bad healing wounds.
<b>Eye contact</b>	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Contact your doctor immediately. Continue rinsing eyes during transport to hospital.
<b>Ingestion</b>	Do not induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Contact your doctor immediately.

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

See section 11 for more detailed information about health effects and symptoms.

<b>Ingestion</b>	If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
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*4.3 Indication of any immediate medical attention and special treatment needed*

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

*5.1 Extinguishing media*

<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.
<b>Unsuitable extinguishing media</b>	No information available

*5.2 Special hazards arising from the substance or mixture*

Contact with certain metals e.g. zinc, lead, tin, aluminium and magnesium and their alloys can generate hydrogen gas (explosive with air). Contaminated surfaces will be extremely slippery.

*5.3 Advice for firefighters*

<b>Special protective equipment for fire-fighters</b>	Special protective equipment for firefighters: In the event of fire, wear self contained breathing apparatus. Wear suitable protective clothing.  Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

*6.1 Personal precautions, protective equipment and emergency procedures*

Use protective equipment as specified in section 8 of SDS. Keep unauthorized people away. Spill area may be slippery. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist.

*6.2 Environmental precautions*

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates watercourses, lakes, soil or drains inform respective authorities.

*6.3 Methods and material for containment and cleaning up*

Absorb in inert material (vermiculite, dry sand or soil) and collect. Keep in suitable and closed containers for disposal.

*6.4 Reference to other sections*

Personal protection see section 8 and for disposal see section 13.

**SECTION 7. HANDLING AND STORAGE**

*7.1 Precautions for safe handling*

**Preventive handling precautions**

Keep container tightly closed. Use protective equipment as specified in section 8 of SDS. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

**General hygiene**

Keep away from food, drink and animal feeding stuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

*7.2 Conditions for safe storage, including any incompatibilities*

Requirements for storage areas and containers: Keep in an area equipped with alkali resistant flooring Store in original container.

Advice on protection against fire and explosion: /\*S only\*/The product is not flammable. Normal measures for preventive fire protection. Gives off hydrogen by reaction with metals. risk of explosion

Further information on storage conditions: Keep container tightly closed. Store in well-ventilated place.

Advice on common storage: Keep away from food, drink and animal feeding stuffs. Do not store together with acids and ammonium salts.

*7.3 Specific end use(s)*

Used as electrolyte for industrial Ni-Cd-batteries.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**



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8.1 Control parameters

National occupational exposure limits	Ingredient	CAS no.	EC No.	Exposure limit mg/m3-ppm		Short-term exposure limit mg/m3-ppm		Remark	Source	Year
	Potassium hydroxide	1310-58-3	215-181-3	-	-	2	-	-	EH40/2005 Workplace exposure limits	-
	Lithium hydroxide	1310-65-2	215-183-4	-	-	1	-	-	EH40/2005 Workplace exposure limits	-

8.2 Exposure controls

<b>Technical precaution measures</b>	Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Eye / face protection</b>	Wear eye/face protection.
<b>Safety gloves</b>	Wear chemical-resistant protective gloves. Potassium hydroxide-resistant gloves. If signs of wear and tear are noticed then the gloves should be replaced. .
<b>Other skin protection</b>	Alkali-proof protective suit.
<b>Respiratory protection</b>	Use approved respirator if air contamination exceeds acceptable level. If it is suspected that fumes are still present wear an appropriate mask or self-contained breathing apparatus. Recommended Filter type: Particle filter: P3
<b>Environmental exposure controls</b>	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates watercourses, lakes, soil or drains inform respective authorities.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Information on basic physical and chemical properties

<b>Appearance, colour</b>	clear
<b>Appearance, physical state</b>	liquid
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Explosive properties</b>	Not applicable
<b>Flammability (solid, gas)</b>	Will not flash.



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<b>Flash point</b>	Not applicable
<b>Initial boiling point and boiling range</b>	ca. 105 ° C
<b>Melting point / freezing point</b>	ca. 3 ° C
<b>Odour</b>	Odorless
<b>Odour treshold</b>	Not applicable
<b>Oxidising properties</b>	will not oxidize
<b>Partition coefficient: n-octanol / water</b>	Not applicable
<b>pH value</b>	>13
<b>Relative density</b>	1200 - 1300 kg/m3
<b>Solubility</b>	Not applicable
<b>Upper / lower flammability or explosive limits</b>	Not applicable
<b>Vapour density</b>	Not applicable
<b>Vapour pressure</b>	no data available
<b>Viscosity</b>	no data available

### 9.2 Other information

No supplementary information available.

## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Contact with certain metals e.g. zinc, lead, tin, aluminium and magnesium and their alloys can generate hydrogen gas (explosive with air).

### 10.2 Chemical stability

Stable under normal usage and storage conditions.

### 10.3 Possibility of hazardous reactions

Contact with certain metals e.g. zinc, lead, tin, aluminium and magnesium and their alloys can generate hydrogen gas (explosive with air). risk of explosion Exothermic reaction with water. Exothermic reaction with acids.

### 10.4 Conditions to avoid



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Avoid heat, flames and other sources of ignition.

*10.5 Incompatible materials*

acids, ammonium salts and Base metals.

*10.6 Hazardous decomposition products*

None known.

**SECTION 11. TOXICOLOGICAL INFORMATION**

*11.1 Information on toxicological effects*

<b>Acute toxicity</b>	<p>Oral          Ingestion can cause serious corrosive injuries with burning pain, vomiting, stomach pains, possibly severe general effects (shock) and kidney damage. Even small amounts may cause serious damage. Risk of permanent injuries.</p> <p>Inhalation          Inhalation can cause: May cause burning pain in the nose and throat. Sneezes, cough and breathing difficulties.          Risk of lung damage in high concentrations.</p>
<b>Irritation</b>	In case of skin contact, corrosive injuries with pain, redness and wounds can occur.
<b>Corrosive effects</b>	Splashes in the eyes may cause pain and burns. Risk of permanent damage to vision. .
<b>Sensitisation</b>	Not sensitising.
<b>Germ cell mutagenicity</b>	No data available
<b>Mutagenicity</b>	No data available
<b>Carcinogenicity</b>	No data available
<b>Repeated dose toxicity</b>	Not applicable
<b>Reproductive toxicity</b>	No data available
<b>LD50 Oral</b>	<p>Potassium hydroxide          LD50: 273 mg/kg ( rat ).</p> <p>Lithium hydroxide          LD50: 210 mg/kg ( rat ).</p>
<b>LC50 Inhalation</b>	Lithium hydroxide LC50 (4 h): 0,96 mg/l ( rat ).



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## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

<b>Acute fish toxicity</b>	Potassium hydroxide LC50 (96 h): 80 mg/l (Gambusia affinis). LC50 (24 h): 165 mg/l (Poecilia reticulata).
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<b>Acute toxicity</b>	Bacteria EC50 (15 min): 22 mg/l (photobacterium phosphoreum).
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### 12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Not considered bio-accumulative.

Potassium hydroxide  
Log Pow: <0

### 12.4 Mobility in soil

<b>Mobility</b>	Adsorption to soil ground is not expected. The product is soluble in water.
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### 12.5 Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

### 12.6 Other adverse effects

Do not flush into surface water or sanitary sewer system. Harmful effects due to pH-change. Neutralization is normally necessary before waste water is discharged into water treatment plants.

### Other

Information given is based on product data.

## SECTION 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Disposal considerations</b>	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
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<b>Packaging</b>	Empty the packaging thoroughly. Empty containers can be reused. Packaging that can't be cleaned are taken care of in the same manner as the product.
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*Other*

**Waste code (EWC)** 16 06 06 - separately collected electrolyte from batteries and accumulators.  
The waste code (EWC) is a recommendation. In the event of non-compliant handling, the end user is personally responsible for a suitable EWC code.

**SECTION 14. TRANSPORT INFORMATION**

*14.1 UN number*

1814

*14.2 UN proper shipping name*

<b>Name</b>	POTASSIUM HYDROXIDE SOLUTION
<b>IMDG proper shipping name</b>	POTASSIUM HYDROXIDE SOLUTION

*14.3 Transport hazard class(es)*

<b>Label</b>	8
<b>ADR / RID Class</b>	8
<b>ADR / RID Classification code</b>	C5
<b>ADR / RID hazard identification number</b>	80
<b>IMDG Class</b>	8
<b>IMDG EmS</b>	F-A, S-B
<b>IATA Class</b>	8

*14.4 Packing group*

II

*14.5 Environmental hazards*

Not applicable

*14.6 Special precautions for user*

Tunnel restriction code: 2 (E)

*14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code*

Not applicable



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**SECTION 15. REGULATORY INFORMATION**

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

<b>EU regulations</b>	Regulation (EC) No 1907/2006 of the European Parliament and of the Council, (REACH). Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Annex II SDS. European Parliament and Council Regulation (EC) No. 1272/2008, CLP.
<b>National regulations</b>	EH40/2005 Workplace exposure limits. Waste Ordinance (2011:927). MSBFS 2015:1 Regulations regarding the transport of hazardous goods by road and off road (ADR-S)

*15.2 Chemical safety assessment*

No chemical safety assessment has been performed.

**SECTION 16. OTHER INFORMATION**

<b>Changes to previous revision</b>	Changes are made in the following sections: 3
<b>References to key literature and data sources</b>	Regulation (EC) No 1907/2006 of the European Parliament and of the Council, (REACH). Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Annex II SDS. European Parliament and Council Regulation (EC) No. 1272/2008, CLP. EH40/2005 Workplace exposure limits. Waste Ordinance (2011:927). MSBFS 2015:1 Regulations regarding the transport of hazardous goods by road and off road (ADR-S) <a href="http://prevent.se">http://prevent.se</a> C&L Inventory Database
<b>Phrase meaning</b>	Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4 Met. Corr. 1 - Corrosive to metals, hazard category 1 Skin Corr. 1A - Skin corrosion, hazard category 1A H290 - May be corrosive to metals. H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage.

*Other*

<b>Additional information</b>	Read this Safety Data Sheet carefully and become aware of hazards implied and the Safety information
<b>Manufacturer's notes</b>	All information in this safety data sheet is based on our current knowledge.