Safety data sheet
According to 1907/2006/EC, Article 31

Revision Date 06.03.2015

Trade name: Aquarius Elektrolyte

SECTION 1:
Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

- Trade name: Aquarius Elektrolyte
- Article number: 70080
- CAS number: 1310-58-3
- EC number: 2151812
- Index number: 019-002-00-8
- Registration number: not available

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

- Sector of Use

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

- **Process category**

PROC1 Use in closed process, no likelihood of exposure
PROC2 Use in closed, continuous process with occasional controlled exposure

- Environmental release category

ERC1 Manufacture of substances
ERC2 Formulation of preparations
ERC4 Industrial use of processing aids in processes and products, not becoming not becoming part of articles
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b Industrial use of reactive processing aids

- **Application of the substance / the mixture** Chemical intermediate

- **1.3 Details of the supplier of the safety data sheet**
- Manufacturer/Supplier:

AQUARIUS Löt- und Schweißgeräte GmbH
Ruhrstr. 119
D-42579 Heiligenhaus
aquarius-lsg@t-online.de
Tel.: (+49)02054/18080
Fax: (+49)020547768

- Further information obtainable from: Product safety department
- 1.4 Emergency telephone number: 112

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SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008

GHS05
Met. Corr.1 H290 May be corrosive to metals.
Skin Corr.1A H314 Causes severe skin burns and eye damage.

GHS07
Acute Tox.4 H302 Harmful if swallowed

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive
R35: Causes severe burns.

Xn; Harmful
R22: Harmful if swallowed.

- Information concerning particular hazards for human and environment: not applicable
- **2.2 Label elements**
- Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms

GHS05 GHS07
-Signal word Danger
- Hazard-determining components of labelling:
potassium hydroxide
- Hazard statements
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
- Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remote contact lenses, if present and easy to do. Continue rinsing.

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P310 Immediately call a POISON CENTER or doctor/physician
P405 Store locked up
P406 Store in corrosive resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/ international regulation
- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable
- vPvB: not applicable.

SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterization: Substances
-CAS No. Description:
1310-58-3 potassium hydroxide
- Identification number(s):
- EC number: 215-181-3
- Index number: 019-002-00-8

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- After inhalation
Supply fresh air.
Seek medical treatment.
- After skin contact
Wash off with plenty of water. Immediately remove contaminated clothing.
Swab with polyethylene glycol 400.
Call a doctor immediately.
- After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not attempt to neutralise.
avoid vomiting
Call for a doctor immediately.
- 4.2 Most important symptons and effects, both acute and delayed
corrosion
irritant effects
Risk of blindness!
- Hazards Danger of gastric perforation.
- 4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
Use extinguishing measures that are appropriate to local circumst**ances and the** surrounding environment.
- **For safety reasons unsuitable extinguishing agents**
For this substance/mixture no limitations of extinguishing agents are given
- **5.2 Special hazards arising from the substance or mixture**
Not combustible
Ambient fire may liberate hazardous vapours.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Stay in danger area only with self-contained breathing apparatus.
- **Additional information**
Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Advice for non-emergency personnel:
do not inhale dust
Ensure adequate ventilation
Avoid substance contact.
Avoid formation of dust.
Wear protective equipment. Keep unprotected persons away.
Evacuate the danger area.
consult an expert
observe emergency procedures
Advice for emergency responders: Protective equipment see 8.
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **6.3 Methods and material for containment and cleaning up:**
Cover drains.
Collect, bind, and pump off spills.
Observe possible material restrictions.
Clean up affected area.
Ensure adequate ventilation.
Send for recovery or disposal in suitable receptacles.
Dispose contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
Observe label precautions.
Provide suction extractors if dust is formed.
Prevent formation of dust.
- Information about fire- and explosion protection: No special measures required.
- 7.2 Conditions for safe storage, including any incompatibilities
- Storage
- Requirement to be met by storerooms and receptacles: Unsuitable material for receptacle: aluminium
- **Information about storage in one common storage facility:** Do not store together with acids.
Further information about storage conditions:
Keep receptacle tightly sealed.
Store in dry conditions.
- Storage class national regulations
- 7.3 Specific end use(s) No further information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters
- Ingredients with limit values that require monitoring at the workplace:
1310-58-3 potassium hydroxide
WEL Short-term value: 2 mg/m³
- DNELs
1310-58-3 potassium hydroxide
Inhalative DNEL long-term 1 mg/m³ (Worker) (local effects)
MSDS
- CAS No. Designation of material % Type Value Unit Not required.
- Additional information: The lists valid during the making were used as basis.
- 8.2 Exposure controls
- Personal protective equipment
- General protective and hygienic measures
Keep away from foodstuffs; beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work..
Avoid contact with the eyes and skin.
- **Respiratory protection:**
required when dusts ara generated.
Filter P2.
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

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- Protection of hands:
Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374)
- Material of gloves
- Penetration time of glove material.
- For the permanent contact gloves made of the following materials are suitable:
Nitrile rubber, NBR
Recommended thickness of the material: 0.11 mm
Value for the permeation: Level > 480 min
- As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, NBR
Recommended thickness of the material: 0.11 mm
Value for the permeation: Level > 480 min
The protective gloves to be used must comply with the specifications of EC Directive 89/686/ECC and the related standard N374, for example
KCL 741 Dermatril L (full contact)
KCL 741 Dermatril L (splash contact)
The breakthrough times stated above were determined by KLC in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet <(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
- Eye protection: Tightly sealed goggles.
- Body protection:
Alkaline resistant protective clothing.
Protective work clothing.
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substances.
- Limitation and supervision of exposure into the environment
Discharge into the environment must be avoided.
Do not empty into drains.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
- General Information
- Appearance:

Form:	liquid
Colour:	Colourless.
- Odour:	Odourless
- Odourless threshold:	Not determined.
- pH-value at 25°C:	13.5
- Change in condition	
Melting point/ Melting range:	406 °C

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Boiling point/ Boiling range: No Data available
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Product is not flammable
- **Ignition temperature:**
  Decomposition temperature: Not determined.
- **Self-igniting:** Not determined.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  Lower: Not determined.
  Upper: Not determined.
- **Vapour pressure at 611 °C:** 0.13 hPa
- **Density at 20 °C:** 1 g/cm³
- **Bulk density at 20 °C:** 1300kg/m³
- **Relative density** Not determined.
- **Vapour density** Not applicable.
- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with**
  Water at 20 °C: 1120 g/l
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  dynamic: Not applicable.
  kinematic: Not applicable.
  Organic solvents: 0.0 %
- **9.2 Other information** No further relevant information available.

Section 10: Stability and reactivity

- **10.1 Reactivity** exothermic dissolution process with water
- **10.2 Chemical stability** The product is chemically stable under standard ambient conditions (room temperature).
- **Thermal decomposition/conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazards reactions** different
- **10.4 Conditions to be avoid** No further relevant information available.
- **10.5 Incompatible materials:**
  glass, various plastics, Metals
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

Section 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect. Risk of blindness!

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- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

Section 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
1310-58-3 potassium hydroxide
LC50: 80 mg/kg (Fish) (96h/Gambusia affinis)
MSDS
- **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.
- **Additional ecological information:**
- **General notes:** Water hazards class 1 (German Regulation) (Assessment by list): slightly hazardous for water.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects**
Forms corrosive mixtures with water even if diluted.
Do not allow to run into surface waters, wastewater, or soil.
Discharge into the environment must be avoided.

Section 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Must be specially treated adhering to official regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

Section 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1814
- **14.2 UN proper shipping name**
- **ADR** 1814 POTASSIUM HYDROXIDE, LIQUID
- **IMDG, IATA** POTASSIUM HYDROXIDE, LIQUID
- **14.3 Transport hazard class(es)**
-**ADR**

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- Class 8 (C6) Corrosive substances.
- Label 8
- IMDG, IATA

- Class 8 Corrosive substances.
- Label 8
- 14.4 Packing group
- ADR, IMDG, IATA **II**
- 14.5 Environmental hazards:
- Marine pollutant: No
- 14.6 Special precautions for user Warning: Corrosive substances.
- Danger code (Kemler): 80
- EMS Number: F-A, S-B
-Segregation groups Alkalis
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- Transport/ Additional information:
- ADR
- Limited quantities (LQ) 1kg
- Except quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 500 g
- Transport category 2
- Tunnel restriction code E
- IMDG
- Limited quantities (LQ) 1kg
- Except quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 500 g
- UN "Model Regulation": UN1814, POTASSIUM HYDROXIDE, LIQUID, 8, II

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations
- Water hazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.
- Other regulations, limitations and prohibitive regulations

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Abbreviations and acronyms:
RID: Regulations Concerning the International Transport of Dangerous Goods By Rail
ICAO: International Civil Aviation Organization
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Concentration (REACH)
Met. Corr.1: Corrosive to metals, Hazard Category 1
Acute Tox. 4: Acute to toxicity, Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A