

Electrolyte Solution

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Revision date: 23/10/2015

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Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Product Name : Electrolyte Solution
Other means of identification : E-lectrolyte Gold, E-lectrolyte Blue, E-lectrolyte Black, DF-E05, DF-E06, DF-E07, DF-E09

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

1.2.1. Relevant identified uses

Use of the substance/mixture : For operation and maintenance of Servomex Oxygen Sensors

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company

Servomex, Inc.
Boston Technical Service Center
4 Constitution Way
Woburn, MA 01801-1087
T + 1-781-935-4600

1.4. Emergency telephone number

Emergency number : CHEMTEL Expert Assistance Hotline
USA 1-800-255-3924
International: 01-813-248-0585 (Collect)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Corr. 1B H314

Eye Dam. 1 H318

Full text of classification categories and H statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Danger

Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP) : P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.
P321 - Specific treatment (see section 4 on this SDS).
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

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2.3. Other hazards

Other hazards not contributing to the classification : Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.
May be corrosive to respiratory tract.

SECTION 3: Composition/information on ingredients

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	95,7	Not classified
Potassium hydroxide	(CAS No) 1310-58-3 (EC no) 215-181-3 (EC index no) 019-002-00-8	4,3 (N=0.77)	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Potassium hydroxide	(CAS No) 1310-58-3 (EC no) 215-181-3 (EC index no) 019-002-00-8	(0,5 =< C < 2) Eye Irrit. 2, H319 (0,5 =< C < 2) Skin Irrit. 2, H315 (2 =< C < 5) Skin Corr. 1B, H314 (C >= 5) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label if possible). Never give anything by mouth to an unconscious person.

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact : Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Wash contaminated clothing before reuse. Get immediate medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid measures after ingestion : Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

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

Symptoms/injuries : Causes severe skin burns and eye damage.

Symptoms/injuries after inhalation : May be corrosive to the respiratory tract.

Symptoms/injuries after skin contact : Causes severe irritation which will progress to chemical burns.

Symptoms/injuries after eye contact : Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/injuries after ingestion : Ingestion is likely to be harmful or have adverse effects. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic symptoms : Repeated or prolonged contact with skin may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis.

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

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Not combustible.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not considered flammable but may burn at high temperatures.

Explosion hazard : Product is not explosive.

Reactivity : May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

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Hazardous decomposition products in case of fire : Potassium oxides. Corrosive vapours.

5.3. Advice for firefighters

Precautionary measures fire : Exercise caution when fighting any chemical fire.
Firefighting instructions : Use water spray or fog for cooling exposed containers.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

6.1.1. For non-emergency personnel

Protective equipment : Use appropriate personal protection equipment (PPE).
Emergency procedures : Evacuate unnecessary personnel. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Stop leak if safe to do so. Eliminate ignition sources. Ventilate area. Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental precautions

Notify authorities if liquid enters sewers or public waters. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.
Methods for cleaning up : Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Cautiously neutralize spilled liquid. Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to other sections

See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : May release corrosive vapors.
Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Do not breathe vapours, mist, spray. Handle empty containers with care because they may still present a hazard.
Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Store in a dry, cool and well-ventilated place. Keep container closed when not in use.
Incompatible products : Strong acids. Strong oxidizers. Metals. Corrosive to metals such as aluminum, tin, and zinc to cause formation of flammable hydrogen gas. Reacts with chlorine dioxide, nitrobenzene, nitromethane, nitrogen trichloride, peroxidized tetrahydrofuran, 2,4,6-trinitrotoluene, bromoform+ crown ethers, acids alcohols, sugars, germanium cyclopentadiene, maleic dicarbide.

7.3. Specific end use(s)

For operation and maintenance of Servomex Oxygen Sensors

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium hydroxide (1310-58-3)		
Austria	MAK (mg/m ³)	2 mg/m ³ (inhalable fraction)
Bulgaria	OEL TWA (mg/m ³)	2,0 mg/m ³


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Potassium hydroxide (1310-58-3)		
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	2 mg/m ³
France	VLE (mg/m ³)	2 mg/m ³
Greece	OEL TWA (mg/m ³)	2 mg/m ³
Greece	OEL STEL (mg/m ³)	2 mg/m ³
USA ACGIH	ACGIH Ceiling (mg/m ³)	2 mg/m ³
Spain	VLA-EC (mg/m ³)	2 mg/m ³
Switzerland	VME (mg/m ³)	2 mg/m ³ (inhalable dust)
United Kingdom	WEL STEL (mg/m ³)	2 mg/m ³
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1 mg/m ³
Denmark	Grænseværdie (ceiling) (mg/m ³)	2 mg/m ³
Estonia	OEL TWA (mg/m ³)	2 mg/m ³
Finland	HTP-arvo (15 min)	2 mg/m ³
Finland	OEL Ceiling (mg/m ³)	2 mg/m ³
Hungary	AK-érték	2 mg/m ³
Hungary	CK-érték	2 mg/m ³
Ireland	OEL (15 min ref) (mg/m ³)	2 mg/m ³
Norway	Grenseverdier (Takverdi) (mg/m ³)	2 mg/m ³
Poland	NDS (mg/m ³)	0,5 mg/m ³
Poland	NDSch (mg/m ³)	1 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³ (inhalable dust)
Sweden	takgränsvärde (TGV) (mg/m ³)	2 mg/m ³ (inhalable dust)
Portugal	OEL - Ceilings (mg/m ³)	2 mg/m ³

8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
- Personal protective equipment : Gloves. Protective clothing. Protective goggles. Face shield. Insufficient ventilation: wear respiratory protection.
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- Materials for protective clothing : Chemically resistant materials and fabrics. Corrosion-proof clothing.
- Hand protection : Wear chemically resistant protective gloves.
- Eye protection : Chemical goggles or face shield.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
- Environmental exposure controls : Do not allow the product to be released into the environment.
- Consumer exposure controls : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Colour : Colourless
- Odour : Odourless
- Odour threshold : No data available
- pH : Alkaline
- Evaporation rate : No data available
- Melting point : -3,5 °C (25,7 °F)
- Freezing point : No data available
- Boiling point : 104,5 °C (220,1 °F)

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Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 16,1 mm Hg (at 20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: 1,15 (water = 1)
Solubility	: Water: Complete
Partition coefficient: n-octanol/water	: No data available
Viscosity	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : < 1 %

SECTION 10: Stability and reactivity

10.1. Reactivity

May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong oxidizers. Metals. Corrosive to metals such as aluminum, tin, and zinc to cause formation of flammable hydrogen gas. Reacts with chlorine dioxide, nitrobenzene, nitromethane, nitrogen trichloride, peroxidized tetrahydrofuran, 2,4,6-trinitrotoluene, bromoform+ crown ethers, acids alcohols, sugars, germanium cyclopentadiene, maleic dicarbide.

10.6. Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Potassium hydroxide (1310-58-3)	
LD50 oral rat	333 mg/kg
LD50 oral	284 mg/kg

Skin corrosion/irritation	: Causes severe skin burns and eye damage. (pH: Alkaline)
Serious eye damage/irritation	: Causes serious eye damage. (pH: Alkaline)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/Injuries After Inhalation	: May be corrosive to the respiratory tract.
Symptoms/Injuries After Skin Contact	: Causes severe irritation which will progress to chemical burns.
Symptoms/Injuries After Eye Contact	: Causes permanent damage to the cornea, iris, or conjunctiva.
Symptoms/Injuries After Ingestion	: Ingestion is likely to be harmful or have adverse effects. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.
Chronic Symptoms	: Repeated or prolonged contact with skin may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis.
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified.

12.2. Persistence and degradability

Electrolyte Solution	
Persistence and degradability	Will degrade by reaction with Carbon Dioxide from the atmosphere to produce a non-hazardous product

12.3. Bioaccumulative potential

Potassium hydroxide (1310-58-3)	
Log Pow	0,65

12.4. Mobility in soil

Electrolyte Solution	
Mobility in soil	Completely soluble in water

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods






Waste disposal recommendations : Dispose of waste material in accordance with all local, regional, national, and international regulations. Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional information : Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1814	1814	1814	1814	1814
14.2. UN proper shipping name				
POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	Potassium hydroxide solution	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

14.6. Special precautions for user

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

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Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Water (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Potassium hydroxide (1310-58-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

VOC content : < 1 %

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Revision date : 23/10/2015

Data sources : According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

EU GHS SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.