

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** Electrolyte COS22 Standard**Article number:** COS22Z-xxxx+E1**Relevant identified uses of the substance or mixture and uses advised against***No further relevant information available.***Application of the substance / the mixture** *Laboratory chemicals***Details of the supplier of the safety data sheet****Manufacturer/Supplier:***Endress+Hauser
Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen***Further information obtainable from:***Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com***Emergency telephone number:** 00971 800 424 (from 7 am to 3 pm, from Sunday to Thursday)**SECTION 2: Hazards identification****Classification of the substance or mixture***Skin Irrit. 2 H315 Causes skin irritation.**Eye Irrit. 2 H319 Causes serious eye irritation.***Label elements****GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS07

Signal word *Warning***Hazard-determining components of labelling:***potassium hydroxide***Hazard statements***Causes skin irritation.**Causes serious eye irritation.***Precautionary statements***Wear protective gloves / eye protection / face protection.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**If skin irritation occurs: Get medical advice/attention.**Take off contaminated clothing and wash it before reuse.**If eye irritation persists: Get medical advice/attention.***Other hazards***The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.***Results of PBT and vPvB assessment****PBT:** *Not applicable.*

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vPvB: Not applicable.

SECTION 3: Composition/information on ingredients**Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 1310-58-3 EINECS: 215-181-3	potassium hydroxide Skin Corr. 1A, H314; Acute Tox. 4, H302 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 5\%$ Skin Corr. 1B; H314: $2\% \leq C < 5\%$ Skin Irrit. 2; H315: $0.5\% \leq C < 2\%$ Eye Irrit. 2; H319: $0.5\% \leq C < 2\%$	≤1%
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Additional information: For the wording of the listed hazard phrases refer to section 16.**SECTION 4: First aid measures****Description of first aid measures****General information:** Immediately remove any clothing soiled by the product.**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult doctor.**Most important symptoms and effects, both acute and delayed**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**Extinguishing media****Suitable extinguishing agents:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents:** no further information**Special hazards arising from the substance or mixture** No further relevant information available.**Advice for firefighters** No further relevant information available.**Protective equipment:** No special measures required.**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures** Wear protective clothing.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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**Precautions for safe handling** *No special precautions are necessary if used correctly.***Information about fire - and explosion protection:** *No special measures required.***Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *Do not use light alloy receptacles.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *Keep container tightly sealed.***Storage class:** 8 B**Specific end use(s)** *No further relevant information available.***SECTION 8: Exposure controls/personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 1310-58-3 potassium hydroxide**

REL (USA)	Ceiling limit: 2 mg/m ³
TLV (USA)	Ceiling limit: 2 mg/m ³
WEL (Great Britain)	Short-term value: 2 mg/m ³

Additional information: *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see item 7.***Individual protection measures, such as 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:** *Not required.***Hand protection**

Protective gloves

*To avoid skin problems reduce the wearing of gloves to the required minimum.**Only use chemical-protective gloves with CE-labelling of category III.**The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.***Material of gloves***Nitrile rubber, NBR**Natural rubber, NR**The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

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Eye/face protection*Tightly sealed goggles***Body protection:** *Protective work clothing***SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****General Information**

Physical state	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Odourless</i>
Odour threshold:	<i>Not determined.</i>
Melting point/freezing point:	<i>-4 °C</i>
Boiling point or initial boiling point and boiling range	<i>100 °C</i>
Flammability	<i>Not applicable.</i>
Lower and upper explosion limit	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
Decomposition temperature:	<i>Not determined.</i>
pH at 20 °C	<i>>12</i>
Viscosity:	
Kinematic viscosity	<i>Not determined.</i>
Dynamic:	<i>Not determined.</i>
Solubility	
water:	<i>Fully miscible.</i>
Partition coefficient n-octanol/water (log value)	<i>Not determined.</i>
Vapour pressure at 20 °C:	<i>23 hPa</i>
Density and/or relative density	
Density at 20 °C:	<i>1.005 g/cm³</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>

Other information**Appearance:****Form:** *Fluid***Important information on protection of health and environment, and on safety.****Auto-ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.
Not determined.***Solvent content:****Water:** *92.0 %***Solids content:** *0.0 %***Change in condition****Evaporation rate** *Not determined.***Information with regard to physical hazard classes****Explosives** *Void***Flammable gases** *Void***Aerosols** *Void***Oxidising gases** *Void***Gases under pressure** *Void*

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Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity**Reactivity** No further relevant information available.**Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

Possibility of hazardous reactions Reacts with various metals.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.**SECTION 11: Toxicological information**

Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity**LD/LC50 values relevant for classification:****CAS: 1310-58-3 potassium hydroxide**

Oral | LD50 | 273 mg/kg (rat)

Skin corrosion/irritation Causes skin irritation.**Serious eye damage/irritation** Causes serious eye irritation.**Information on other hazards****Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

Other adverse effects**Additional ecological information:****General notes:**

Not hazardous for water.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-

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*dangerous.***SECTION 13: Disposal considerations****Waste treatment methods****Recommendation***Must not be disposed together with household garbage. Do not allow product to reach sewage system.***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****UN number or ID number**

UN1814

IMDG, IATA**UN proper shipping name**

UN1814 POTASSIUM HYDROXIDE SOLUTION

ADR

POTASSIUM HYDROXIDE SOLUTION

IMDG**IATA**

Potassium hydroxide solution

Transport hazard class(es)**ADR****Class**

8 (C5) Corrosive substances.

Label

8

IMDG, IATA**Class**

8 Corrosive substances.

Label

8

Packing group

III

ADR, IMDG, IATA**Environmental hazards:**

Not applicable.

Special precautions for user

Warning: Corrosive substances.

Hazard identification number (Kemler code):

80

EMS Number:

F-A,S-B

Segregation groups

Alkalis

Stowage Category

A

Segregation Code

SG35 Stow "separated from" SGG1-acids

Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:**ADR****Limited quantities (LQ)**

5L

Transport category

3

Tunnel restriction code

E

IMDG**Limited quantities (LQ)**

5L

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Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, III

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SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture**
GHS label elements*The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS07

Signal word *Warning***Hazard-determining components of labelling:***potassium hydroxide***Hazard statements***Causes skin irritation.**Causes serious eye irritation.***Precautionary statements***Wear protective gloves / eye protection / face protection.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**If skin irritation occurs: Get medical advice/attention.**Take off contaminated clothing and wash it before reuse.**If eye irritation persists: Get medical advice/attention.***Directive 2012/18/EU****Named dangerous substances - ANNEX I** *None of the ingredients is listed.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

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.***Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)**ICAO: International Civil Aviation Organisation**ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)**ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**** Data compared to the previous version altered.**