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

1.1 Product identifier

Trade name: Elektrolyt COS21/21D-A
Synonym: *Electrolyte COS21/21D-A*

Article number: *71368308*

1.2 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*

1.3 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 209-117
Fax.: +49 (0)7156 209-222
E-Mail: conducta_service@conducta.endress.com

1.4 Emergency telephone number:
00353 01 809 2166 (from 8 am to 10 pm, 7 days a week)
00353 01 809 2566 (24h)

* SECTION 2: Hazards identification

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

GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms *GHS05*
Signal word *Danger*

Hazard-determining components of labelling:
potassium hydroxide
Hazard statements
H314 Causes severe skin burns and eye damage.
Precautionary statements
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

(Contd. on page 2)

(Contd. of page 1)

Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

*
SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: 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*	*≤1%*

Additional information: *For the wording of the listed hazard phrases refer to section 16.*

*
SECTION 4: First aid measures

4.1 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. Then consult a doctor.*

After swallowing: *Drink plenty of water and provide fresh air. Call for a doctor immediately.*
4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
5.2 For safety reasons unsuitable extinguishing agents: *no further information*
5.3 Special hazards arising from the substance or mixture
During heating or in case of fire poisonous gases are produced.
5.4 Advice for firefighters
5.5 Protective equipment: *Mount respiratory protective device.*

*
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
6.2 Environmental precautions: *Dilute with plenty of water.*
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

(Contd. of page 2)

See Section 13 for disposal information.

* SECTION 7: Handling and storage

7.1 Handling:
Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about fire - and explosion protection: *Keep respiratory protective device available.*

Conditions for safe storage, including any incompatibilities

7.2 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*
7.3 Specific end use(s) *No further relevant 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	
OEL (Ireland)	*Short-term value: 2 mg/m³*

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.
Avoid contact with the eyes and skin.

Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:

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
Chloroprene rubber, CR
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.

(Contd. on page 4)

(Contd. of page 3)

Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

Body protection: *Protective work clothing*

*
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Appearance:	
Form:	*Fluid*
Colour:	*Colourless*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Important information on protection of health and environment, and on safety.	
pH-value at 20 °C:	*13*
Change in condition	
Melting point/freezing point:	*0 °C*
Initial boiling point and boiling range:	*100 °C*
Flash point:	*Not applicable.*
Flammability (solid, gas):	*Not applicable.*
Decomposition temperature:	*Not determined.*
Auto-ignition temperature:	*Product is not selfigniting.*
Explosive properties:	*Product does not present an explosion hazard.* *Not determined.*
Explosion limits:	
Lower:	*Not determined.*
Upper:	*Not determined.*
Vapour pressure at 20 °C:	*23 hPa*
Density at 20 °C:	*1.01 g/cm³*
Relative density	*Not determined.*
Vapour density	*Not determined.*
Evaporation rate	*Not determined.*
Solubility in / Miscibility with water:	*Fully miscible.*
Partition coefficient: n-octanol/water:	*Not determined.*
Viscosity:	
Dynamic:	*Not determined.*
Kinematic:	*Not determined.*
Solvent content:	
Water:	*80.5 %*
Solids content:	*0.0 %*

(Contd. on page 5)

(Contd. of page 4)

9.2 Other information *No further relevant information available.*

SECTION 10: Stability and reactivity

10.1 Reactivity *No further relevant information available.*
10.2 Chemical stability
Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions *Reacts with various metals.*
10.4 Conditions to avoid *No further relevant information available.*
10.5 Incompatible materials: *No further relevant information available.*
10.6 Hazardous decomposition products: *No dangerous decomposition products known.*

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity *Based on available data, the classification criteria are not met.*

LD/LC50 values relevant for classification:		
1310-58-3 potassium hydroxide		
Oral	*LD50*	*273 mg/kg (rat)*

Primary irritant effect:
Skin corrosion/irritation
Causes severe skin burns and eye damage.
Serious eye damage/irritation
Causes serious eye damage.
Respiratory or skin sensitisation *Based on available data, the classification criteria are not met.*
CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
Germ cell mutagenicity *Based on available data, the classification criteria are not met.*
Carcinogenicity *Based on available data, the classification criteria are not met.*
Reproductive toxicity *Based on available data, the classification criteria are not met.*
STOT-single exposure *Based on available data, the classification criteria are not met.*
STOT-repeated exposure *Based on available data, the classification criteria are not met.*
Aspiration hazard *Based on available data, the classification criteria are not met.*

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: *No further relevant information available.*
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:
Not hazardous for water.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
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-dangerous.
12.5 Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
12.6 Other adverse effects *No further relevant information available.*

(Contd. on page 6)

(Contd. of page 5)

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.

European waste catalogue	
*16 05 06**	*laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals*

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 *UN1814 POTASSIUM HYDROXIDE SOLUTION*
IMDG *POTASSIUM HYDROXIDE SOLUTION*
IATA *Potassium hydroxide solution*
14.3 Transport hazard class(es)

ADR

Class *8 (C5) Corrosive substances.*
Label *8*

IMDG, IATA

Class *8 Corrosive substances.*
Label *8*
14.4 Packing group
ADR, IMDG, IATA *III*
14.5 Environmental hazards: *Not applicable.*
14.6 Special precautions for user *Warning: Corrosive substances.*
Danger code (Kemler): *80*
EMS Number: *F-A,S-B*
Segregation groups *Alkalis*
Stowage Category *A*
Segregation Code *SG35 Stow "separated from" SGG1-acids*
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code *Not applicable.*

Transport/Additional information:

ADR
Limited quantities (LQ) *5L*
Excepted quantities (EQ) *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
Transport category *3*

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Tunnel restriction code	*E*
IMDG	
Limited quantities (LQ)	*5L*
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*

SECTION 15: Regulatory information

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

Directive 2012/18/EU
Named dangerous substances - ANNEX I *None of the ingredients is listed.*
REGULATION (EC) No 1907/2006 ANNEX XVII *Conditions of restriction: 3*
15.2 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-TWRC*
Contact: *MSDS@conducta.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 européen sur le transport 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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
*** Data compared to the previous version altered.**