

1 Identification

Product identifier

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

Synonym: *Electrolyte COS21/21D-A*

Article number: 71368308

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Endress+Hauser Conducta Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:

Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: 001 18000 222 1222

* 2 Hazard(s) identification

Classification of the substance or mixture



GHS07

Skin Irritation 2 H315 Causes skin irritation.

Eye Irritation 2A H319 Causes serious eye irritation.

Label elements

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS07

Signal word *Warning*

Hazard-determining components of labeling:

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.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 2

Fire = 0

Reactivity = 0

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HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

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.

vPvB: Not applicable.

* 3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

CAS: 1310-58-3	potassium hydroxide	0.1-1%
	 Skin Corrosion 1A, H314;  Acute Toxicity - Oral 4, H302	

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

* 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.

Information for 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.

* 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing 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.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

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Do not allow to enter sewers/ surface or ground 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.

Protective Action Criteria for Chemicals**PAC-1:**

CAS: 1310-58-3	potassium hydroxide	0.18 mg/m ³
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PAC-2:

CAS: 1310-58-3	potassium hydroxide	2 mg/m ³
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PAC-3:

CAS: 1310-58-3	potassium hydroxide	54 mg/m ³
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*** 7 Handling and storage**

Precautions for safe handling No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

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 receptacle tightly sealed.

Storage class: 8 B

Specific end use(s) No further relevant information available.

*** 8 Exposure controls/personal protection**

Additional information about design of technical systems: No further data; see section 7.

Control parameters**Components with limit values that require monitoring at the workplace:**

CAS: 1310-58-3 potassium hydroxide

REL	Ceiling limit value: 2 mg/m ³
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TLV	Ceiling limit value: 2 mg/m ³
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Additional information: The lists that were valid during the creation were used as basis.

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.

Breathing equipment: Not required.

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-labeling of category III.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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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.

Eye protection:

Tightly sealed goggles

Body protection: Protective work clothing*** 9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:****Form:**

Fluid

Color:

Colorless

Odor:

Odorless

Odor threshold:

Not determined.

pH-value at 20 °C (68 °F):

11-13

Change in condition**Melting point/Melting range:**

0 °C (32 °F)

Boiling point/Boiling range:

100 °C (212 °F)

Flash point:

Not applicable.

Flammability:

Not applicable.

Decomposition temperature:

Not determined.

Ignition temperature:

Product is not selfigniting.

Danger of explosion:

Product does not present an explosion hazard.
Not determined.

Explosion limits:**Lower:**

Not determined.

Upper:

Not determined.

Vapor pressure at 20 °C (68 °F):

23 hPa (17.3 mm Hg)

Density at 20 °C (68 °F):1.01 g/cm³ (8.428 lbs/gal)**Relative density**

Not determined.

Vapor 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.

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Kinematic: Not determined.

Solvent content:

Water: 80.5 %

Solids content: 0.0 %

Other information

No further relevant information available.

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.

*11 Toxicological information

Information on toxicological effects

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

Oral | LD50 | 273 mg/kg (rat)

Primary irritant effect:**on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

*12 Ecological information

Toxicity**Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.

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13 Disposal considerations

Waste treatment methods

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: *Disposal must be made according to official regulations.*

Recommended cleansing agent: *Water, if necessary with cleansing agents.*

*14 Transport information

UN-Number

DOT, IMDG, IATA

UN1814

UN proper shipping name

DOT

Potassium hydroxide, solution

IMDG

POTASSIUM HYDROXIDE SOLUTION

IATA

Potassium hydroxide solution

Transport hazard class(es)

DOT



Class

8 Corrosive substances

Label

8

IMDG, IATA



Class

8 Corrosive substances

Label

8

Packing group

DOT, IMDG, IATA

III

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

(SGG18) Alkalis

Stowage Category

A

Segregation Code

SG35 Stow "separated from" SGG1-acids

Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

DOT

Quantity limitations

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

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

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UN "Model Regulation":

UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, III

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***15 Regulatory information**

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

Section 355 (extremely hazardous substances):*None of the ingredient is listed.***Section 313 (Specific toxic chemical listings):***None of the ingredients is listed.***TSCA (Toxic Substances Control Act):**

CAS: 7732-18-5	water	ACTIVE
CAS: 1310-58-3	potassium hydroxide	ACTIVE
CAS: 7447-40-7	potassium chloride	ACTIVE

Hazardous Air Pollutants*None of the ingredients is listed.***Proposition 65****Chemicals known to cause cancer:***None of the ingredients is listed.***Chemicals known to cause reproductive toxicity for females:***None of the ingredients is listed.***Chemicals known to cause reproductive toxicity for males:***None of the ingredients is listed.***Chemicals known to cause developmental toxicity:***None of the ingredients is listed.***Carcinogenicity categories****EPA (Environmental Protection Agency)***None of the ingredients is listed.***TLV (Threshold Limit Value)***None of the ingredients is listed.***MAK (German Maximum Workplace Concentration)***None of the ingredients is listed.***NIOSH-Ca (National Institute for Occupational Safety and Health)***None of the ingredients is listed.***GHS label elements***The product is classified and labeled according to the Globally Harmonized System (GHS).***Hazard pictograms**

GHS07

Signal word *Warning***Hazard-determining components of labeling:***potassium hydroxide***Hazard statements***Causes skin irritation.**Causes serious eye irritation.*

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— USA —

Trade name: Elektrolyt COS21/21D-A

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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.***National regulations:****Water hazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***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***Date of preparation / last revision** 10/23/2024 / 1**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**DOT: US Department of Transportation**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)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Acute Toxicity - Oral 4: Acute toxicity – Category 4**Skin Corrosion 1A: Skin corrosion/irritation – Category 1A**Skin Irritation 2: Skin corrosion/irritation – Category 2**Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A**** Data compared to the previous version altered.**