

29.04.2022

Kit Components

| Product code | Description |
|---------------------|---|
| CY80TN-SX+SQ | CA80TN Reagent set for total nitrate |

Components:

| | |
|----------|--------------------------------|
| 71495405 | CA80TN Reagent RB, Component 1 |
| 71495406 | CA80TN Reagent RB, Component 2 |
| 71495407 | CA80TN Reagent RK |

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

1.1 Product identifier

Trade name: **CA80TN Reagent RB, Component 1**

Article number: 71495405

CAS Number:

7775-27-1

EC number:

231-892-1

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 209-10117

E-Mail: MSDS.PCC@endress.com

1.4 Emergency telephone number: 0044 717 635 91 91

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS03 GHS07 GHS08

Signal word *Danger*

Trade name: CA80TN Reagent RB, Component 1

(Contd. of page 1)

Hazard-determining components of labelling:*sodium persulphate***Hazard statements***H272 May intensify fire; oxidiser.**H302 Harmful if swallowed.**H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.**H317 May cause an allergic skin reaction.***Precautionary statements***P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**P220 Keep away from clothing and other combustible materials.**P261 Avoid breathing dust/fume/gas/mist/vapours/spray.**P284 [In case of inadequate ventilation] wear respiratory protection.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***SECTION 3: Composition/information on ingredients****3.1 Substances****CAS No. Description***CAS: 7775-27-1 sodium persulphate***Identification number(s)****EC number:** *231-892-1***SECTION 4: First aid measures****4.1 Description of first aid measures****General information:***Immediately remove any clothing soiled by the product.**Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.***After inhalation:***Supply fresh air and to be sure call for a doctor.**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.***After swallowing:** *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:** *Use fire extinguishing methods suitable to surrounding conditions.***For safety reasons unsuitable extinguishing agents:** *no further information***5.2 Special hazards arising from the substance or mixture** *No further relevant information available.***5.3 Advice for firefighters** *No further relevant information available.*

(Contd. on page 3)

Trade name: CA80TN Reagent RB, Component 1

(Contd. of page 2)

Protective equipment: *No special measures required.*

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Wear protective clothing.***6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.***6.3 Methods and material for containment and cleaning up:***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.**See Section 13 for disposal information.*

SECTION 7: Handling and storage

7.1 Precautions for safe handling *Ensure good ventilation/exhaustion at the workplace.***Information about fire - and explosion protection:** *No special measures required.***7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *None.***Storage class:** 5.1 B**7.3 Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:** *Not required.***Additional information:** *The lists valid during the making were used as basis.***8.2 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.***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.***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.**No chemical-protective gloves required.***Material of gloves***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.**Nitrile rubber, NBR*

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Trade name: CA80TN Reagent RB, Component 1

(Contd. of page 3)

*Natural rubber, NR***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.***Body protection:** *Protective work clothing***SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information**

| | |
|---|----------------------------------|
| Physical state | <i>Solid</i> |
| Colour: | <i>White</i> |
| Odour: | <i>Odourless</i> |
| Odour threshold: | <i>Not determined.</i> |
| Melting point/freezing point: | <i>Undetermined.</i> |
| Boiling point or initial boiling point and boiling range | <i>Undetermined.</i> |
| Flammability | <i>Product is not flammable.</i> |
| Lower and upper explosion limit | |
| Lower: | <i>Not determined.</i> |
| Upper: | <i>Not determined.</i> |
| Flash point: | <i>Not applicable.</i> |
| pH | <i>Not applicable.</i> |
| Viscosity: | |
| Kinematic viscosity | <i>Not applicable.</i> |
| Dynamic: | <i>Not applicable.</i> |
| Solubility | |
| water: | <i>Soluble.</i> |
| Partition coefficient n-octanol/water (log value) | <i>Not determined.</i> |
| Vapour pressure: | <i>Not applicable.</i> |
| Density and/or relative density | |
| Density at 20 °C: | <i>1.1 g/cm³</i> |
| Relative density | <i>Not determined.</i> |
| Vapour density | <i>Not applicable.</i> |

9.2 Other information

| | |
|--|--|
| Appearance: | |
| Form: | <i>Solid</i> |
| Important information on protection of health and environment, and on safety. | |
| Auto-ignition temperature: | <i>Not determined.</i> |
| Explosive properties: | <i>Product does not present an explosion hazard.</i> |
| | <i>Not determined.</i> |
| Solids content: | <i>100.0 %</i> |
| Change in condition | |
| Evaporation rate | <i>Not applicable.</i> |
| Information with regard to physical hazard classes | |
| Explosives | <i>Void</i> |
| Flammable gases | <i>Void</i> |
| Aerosols | <i>Void</i> |
| Oxidising gases | <i>Void</i> |
| Gases under pressure | <i>Void</i> |
| Flammable liquids | <i>Void</i> |
| Flammable solids | <i>Void</i> |
| Self-reactive substances and mixtures | <i>Void</i> |
| Pyrophoric liquids | <i>Void</i> |

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Trade name: CA80TN Reagent RB, Component 1

(Contd. of page 4)

| | |
|---|-------------------------------|
| 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 | May intensify fire; oxidiser. |
| Organic peroxides | Void |
| Corrosive to metals | Void |
| Desensitised explosives | Void |

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 No dangerous reactions known.

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

Acute toxicity Harmful if swallowed.

LD/LC50 values relevant for classification:

CAS: 7775-27-1 sodium persulphate

| | | |
|------|------|-----------------|
| Oral | LD50 | 920 mg/kg (rat) |
|------|------|-----------------|

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

11.2 Information on other hazards**Endocrine disrupting properties**

Substance is not listed.

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.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

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

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Trade name: CA80TN Reagent RB, Component 1

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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.***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 or ID number**

IMDG, IATA

UN1505

14.2 UN proper shipping name

ADR

UN1505 SODIUM PERSULPHATE

IMDG

SODIUM PERSULPHATE

IATA

Sodium persulphate

14.3 Transport hazard class(es)

ADR



Class

5.1 (O2) Oxidising substances.

Label

5.1

IMDG, IATA



Class

5.1 Oxidising substances.

Label

5.1

14.4 Packing group

ADR, IMDG, IATA

III

14.5 Environmental hazards:*Not applicable.***14.6 Special precautions for user***Warning: Oxidising substances.***Hazard identification number (Kemler code):**

50

EMS Number:

F-A,S-Q

Stowage Category

A

Segregation Code

SG38 Stow "separated from" SGG2-ammonium compounds.

SG49 Stow "separated from" SGG6-cyanides

14.7 Maritime transport in bulk according to IMO instruments*Not applicable.***Transport/Additional information:**

ADR

Limited quantities (LQ)

5 kg

Transport category

3

Tunnel restriction code

E

IMDG

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

*Maximum net quantity per inner packaging: 30 g**Maximum net quantity per outer packaging: 1000 g*

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Trade name: CA80TN Reagent RB, Component 1

UN "Model Regulation":

UN 1505 SODIUM PERSULPHATE, 5.1, III (Contd. of page 6)

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Labelling according to Regulation (EC) No 1272/2008***The substance is classified and labelled according to the GB CLP regulation.***Hazard pictograms**

GHS03 GHS07 GHS08

Signal word *Danger***Hazard-determining components of labelling:***sodium persulphate***Hazard statements***H272 May intensify fire; oxidiser.**H302 Harmful if swallowed.**H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.**H317 May cause an allergic skin reaction.***Precautionary statements***P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**P220 Keep away from clothing and other combustible materials.**P261 Avoid breathing dust/fume/gas/mist/vapours/spray.**P284 [In case of inadequate ventilation] wear respiratory protection.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***Directive 2012/18/EU****Named dangerous substances - ANNEX I** *Substance is not listed.***Seveso category** *P8 OXIDISING LIQUIDS AND SOLIDS***Qualifying quantity (tonnes) for the application of lower-tier requirements** *50 t***Qualifying quantity (tonnes) for the application of upper-tier requirements** *200 t***National regulations:****Waterhazard class:** *Water hazard class 1 (Assessment by list): slightly hazardous for water.***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.***16.3 Recommended restriction of use****Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***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**GHS: Globally Harmonised 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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Ox. Sol. 2: Oxidizing solids – Category 2**Acute Tox. 4: Acute toxicity – Category 4**Resp. Sens. 1: Respiratory sensitisation – Category 1*

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Safety data sheet

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according to 1907/2006/EC, Article 31

Printing date 29.04.2022

Version 4 (replaces version 3)

Revision: 29.04.2022

Trade name: CA80TN Reagent RB, Component 1

Skin Sens. 1: Skin sensitisation – Category 1

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*** Data compared to the previous version altered.**

— GB —

**SECTION 1: Identification of the substance/mixture and of the company/
undertaking****1.1 Product identifier****Trade name:** CA80TN Reagent RB, Component 2**Article number:** 71495406**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 209-10117
E-Mail: MSDS.PCC@endress.com***1.4 Emergency telephone number:** 0044 717 635 91 91**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008***Skin Irrit. 2 H315 Causes skin irritation.**Eye Irrit. 2 H319 Causes serious eye irritation.***2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008***The product is classified and labelled according to the GB CLP regulation.***Hazard pictograms**

GHS07

Signal word *Warning***Hazard statements***H315 Causes skin irritation.**H319 Causes serious eye irritation.***Precautionary statements***P280 Wear protective gloves / eye protection / face protection.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P332+P313 If skin irritation occurs: Get medical advice/attention.**P362+P364 Take off contaminated clothing and wash it before reuse.**P337+P313 If eye irritation persists: Get medical advice/attention.***2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.*

Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 1)

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.

| Dangerous components: | | |
|---|---|--------|
| CAS: 1310-73-2 EINECS: 215-185-5 Registration number: 01-2119457892-27-XXXX | Sodium 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: $0.5\% \leq C < 2\%$ | 1-2.5% |

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. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult doctor.**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:** Use fire extinguishing methods suitable to surrounding conditions.**For safety reasons unsuitable extinguishing agents:** no further information**5.2 Special hazards arising from the substance or mixture** No further relevant information available.**5.3 Advice for firefighters** No further relevant information available.**Protective equipment:** No special measures required.**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures** 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).

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.

(Contd. on page 3)

Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 2)

SECTION 7: Handling and storage**7.1 Precautions for safe handling** *No special precautions are necessary if used correctly.***Information about fire - and explosion protection:** *No special measures required.***7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***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****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 1310-73-2 Sodium hydroxide**WEL | Short-term value: 2 mg/m³**Additional information:** *The lists valid during the making were used as basis.***8.2 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.***Eye/face protection***Tightly sealed goggles*

(Contd. on page 4)

Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 3)

Body protection: *Protective work clothing***SECTION 9: Physical and chemical properties****9.1 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>Undetermined.</i> |
| Boiling point or initial boiling point and boiling range | <i>100 °C (CAS: 7732-18-5 water)</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> |
| pH | <i>Not determined.</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 (CAS: 7732-18-5 water)</i> |
| Density and/or relative density | |
| Density at 20 °C: | <i>1.008 g/cm³</i> |
| Relative density | <i>Not determined.</i> |
| Vapour density | <i>Not determined.</i> |

9.2 Other information

| | |
|---|--|
| Appearance: | |
| Form: | <i>Fluid</i> |
| Important information on protection of health and environment, and on safety. | |
| Auto-ignition temperature: | <i>Product is not selfigniting.</i> |
| Explosive properties: | <i>Product does not present an explosion hazard. Not determined.</i> |
| Solvent content: | |
| Water: | <i>98.5 %</i> |
| Solids content: | <i>0.0 %</i> |
| Change in condition | |
| Evaporation rate | <i>Not determined.</i> |

Information with regard to physical hazard classes

| | |
|---------------------------------------|-------------|
| Explosives | <i>Void</i> |
| Flammable gases | <i>Void</i> |
| Aerosols | <i>Void</i> |
| Oxidising gases | <i>Void</i> |
| Gases under pressure | <i>Void</i> |
| Flammable liquids | <i>Void</i> |
| Flammable solids | <i>Void</i> |
| Self-reactive substances and mixtures | <i>Void</i> |
| Pyrophoric liquids | <i>Void</i> |
| Pyrophoric solids | <i>Void</i> |
| Self-heating substances and mixtures | <i>Void</i> |

(Contd. on page 5)

Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 4)

| | |
|--|------|
| 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**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** *No dangerous reactions known.***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 hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity****LD/LC50 values relevant for classification:****CAS: 1310-73-2 Sodium hydroxide**

| | | |
|------------|----------|-------------------|
| Oral | LD50 | 2,000 mg/kg (rat) |
| Inhalative | LC50/4 h | 125 mg/l (Fish) |

Skin corrosion/irritation *Causes skin irritation.***Serious eye damage/irritation** *Causes serious eye irritation.***11.2 Information on other hazards****Endocrine disrupting properties***None of the ingredients is listed.***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.***12.5 Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***12.6 Endocrine disrupting properties***The product does not contain substances with endocrine disrupting properties.***12.7 Other adverse effects****Additional ecological information:****General notes:** *Not hazardous for water.**** 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.*

(Contd. on page 6)

Trade name: CA80TN Reagent RB, Component 2

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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 or ID number

IMDG, IATA

UN1824

14.2 UN proper shipping name

ADR

UN1824 SODIUM HYDROXIDE SOLUTION

IMDG

SODIUM HYDROXIDE SOLUTION

IATA

Sodium 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.

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

14.7 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

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 1824 SODIUM HYDROXIDE SOLUTION, 8, III

(Contd. on page 7)

Trade name: CA80TN Reagent RB, Component 2

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS07

Signal word *Warning*

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves / eye protection / face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P337+P313 If eye irritation persists: Get medical advice/attention.

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

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.

16.1 Relevant phrases

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

16.3 Recommended restriction of use

Department issuing SDS: PCC-TWR

Contact: MSDS.pcc@endress.com

Abbreviations and acronyms:

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

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

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.

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**Trade name: **CA80TN Reagent RK**

Article number: 71495407

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 209-10117
E-Mail: MSDS.PCC@endress.com***1.4 Emergency telephone number:** 0044 717 635 91 91**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

*corrosion**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 GB CLP regulation.***Hazard pictograms**

GHS05

Signal word *Danger***Hazard-determining components of labelling:***hydrochloric acid***Hazard statements***H318 Causes serious eye damage.***Precautionary statements***P280 Wear eye protection / face protection.**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.***2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.*

Trade name: CA80TN Reagent RK

(Contd. of page 1)

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.

| Dangerous components: | | |
|---|---|------|
| CAS: 7647-01-0 EINECS: 231-595-7 Registration number: 01-2119484862-27-XXXX | hydrochloric acid ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; STOT SE 3, H335 Specific concentration limits: Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10 % | 2-6% |

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****After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing:** If symptoms persist consult doctor.**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:** Use fire extinguishing methods suitable to surrounding conditions.**For safety reasons unsuitable extinguishing agents:** no further information**5.2 Special hazards arising from the substance or mixture** No further relevant information available.**5.3 Advice for firefighters** No further relevant information available.**Protective equipment:** No special measures required.**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground 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.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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Trade name: CA80TN Reagent RK

(Contd. of page 2)

See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling** *No special precautions are necessary if used correctly.***Information about fire - and explosion protection:** *No special measures required.***7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *Keep container tightly sealed.***Storage class:** 12**7.3 Specific end use(s)** *No further relevant information available.***SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7647-01-0 hydrochloric acid**

| | |
|-----|---|
| WEL | Short-term value: 8 mg/m ³ , 5 ppm |
| | Long-term value: 2 mg/m ³ , 1 ppm (gas and aerosol mists) |

DNELs**CAS: 7647-01-0 hydrochloric acid**

| | | |
|------------|-----------------|--|
| Inhalative | DNEL short-term | 15 mg/m ³ (worker) (local effects) 15 mg/m ³ (consumer) (local effects) |
| | DNEL long-term | 8 mg/m ³ (worker) (local effects) 8 mg/m ³ (consumer) (local effects) |

Additional information: *The lists valid during the making were used as basis.***8.2 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.**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**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.*

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Trade name: CA80TN Reagent RK

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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/face 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**

| | |
|--|-------------------------------|
| Physical state | Fluid |
| Colour: | Colourless |
| Odour: | Odourless |
| Odour threshold: | Not determined. |
| Melting point/freezing point: | Undetermined. |
| Boiling point or initial boiling point and boiling range | 100 °C (CAS: 7732-18-5 water) |
| Flammability | Not applicable. |
| Lower and upper explosion limit | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| Flash point: | Not applicable. |
| pH | Not determined. |
| Viscosity: | |
| Kinematic viscosity | Not determined. |
| Dynamic: | Not determined. |
| Solubility | |
| water: | Fully miscible. |
| Partition coefficient n-octanol/water (log value) | Not determined. |
| Vapour pressure at 20 °C: | 23 hPa (CAS: 7732-18-5 water) |
| Density and/or relative density | |
| Density at 20 °C: | 1.006 g/cm ³ |
| Relative density | Not determined. |
| Vapour density | Not determined. |

9.2 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: 95.6 %

Solids content: 0.0 %

Change in condition

Evaporation rate: Not determined.

Information with regard to physical hazard classes

Explosives: Void

Flammable gases: Void

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Trade name: CA80TN Reagent RK

(Contd. of page 4)

| | |
|---|------|
| Aerosols | Void |
| Oxidising gases | Void |
| Gases under pressure | Void |
| 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

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 *No dangerous reactions known.*

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

Acute toxicity

LD/LC50 values relevant for classification:

CAS: 7647-01-0 hydrochloric acid

| | | |
|------|------|--------------------|
| Oral | LD50 | 900 mg/kg (rabbit) |
|------|------|--------------------|

Serious eye damage/irritation *Causes serious eye damage.*

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

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.*

12.5 Results of PBT and vPvB assessment

PBT: *Not applicable.*

vPvB: *Not applicable.*

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

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Trade name: CA80TN Reagent RK

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12.7 Other adverse effects**Additional ecological information:****General notes:***Water hazard class 1 (German Regulation) (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.**Must not reach sewage water or drainage ditch undiluted or unneutralised.**** 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.***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 or ID number**

IMDG, IATA

Void

14.2 UN proper shipping name

ADR, IMDG, IATA

Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

14.4 Packing group

ADR, IMDG, IATA

Void

14.5 Environmental hazards:*Not applicable.***14.6 Special precautions for user***Not applicable.***14.7 Maritime transport in bulk according to IMO**

instruments

Not applicable.

UN "Model Regulation":

Void

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No 1272/2008***The product is classified and labelled according to the GB CLP regulation.***Hazard pictograms**

GHS05

Signal word *Danger***Hazard-determining components of labelling:***hydrochloric acid***Hazard statements***H318 Causes serious eye damage.***Precautionary statements***P280 Wear eye protection / face protection.**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.*

(Contd. on page 7)

Trade name: CA80TN Reagent RK

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Directive 2012/18/EU**Named dangerous substances - ANNEX I** *None of the ingredients is listed.***National regulations:****Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***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.

16.1 Relevant phrases*H302 Harmful if swallowed.**H314 Causes severe skin burns and eye damage.**H318 Causes serious eye damage.**H335 May cause respiratory irritation.***16.3 Recommended restriction of use****Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***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**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)**DNEL: Derived No-Effect Level (GB REACH)**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. 1B: Skin corrosion/irritation – Category 1B**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**** Data compared to the previous version altered.**