

09/21/2024

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

1 Identification

Product identifier

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

Article number: 71495405

CAS Number:

7775-27-1

EC number:

231-892-1

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: +1 604 682 5050

2 Hazard identification

Classification of the substance or mixture



GHS03 Flame over circle

Oxidizing Solids – Category 2

H272 May intensify fire; oxidizer.



GHS08 Health hazard

Respiratory Sensitizer - Category 1

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



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Label elements

GHS label elements

The substance is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS03



GHS07



GHS08

Signal word *Danger*

Hazard-determining components of labelling:

sodium persulphate

Hazard statements

May intensify fire; oxidizer.

Harmful if swallowed.

Trade name: CA80TN Reagent RB, Component 1

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*May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.***Precautionary statements***Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Keep away from clothing and other combustible materials.**Avoid breathing dust/fume/gas/mist/vapours/spray.**[In case of inadequate ventilation] wear respiratory protection.**Dispose of contents/container in accordance with local/regional/national/international regulations.***3 Composition/Information on ingredients****Chemical characterisation: Substances****CAS No. Description***CAS: 7775-27-1 sodium persulphate***Identification number(s)***EC number: 231-892-1***4 First-aid measures****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.***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:** *Use fire extinguishing methods suitable to surrounding conditions.***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:** *Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:***Dispose contaminated material as waste according to section 13.**Ensure adequate ventilation.*

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Trade name: CA80TN Reagent RB, Component 1

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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.***7 Handling and storage****Precautions for safe handling** *Ensure good ventilation/exhaustion at the workplace.***Information about fire - and explosion protection:** *No special measures required.***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***Specific end use(s)** *No further relevant information available.***8 Exposure controls/ Personal protection****Additional information about design of technical facilities:** *No further data; see section 7.***Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7775-27-1 sodium persulphate****EL** *TWA: 0.1 mg/m³
as persulfate***EV** *TWA: 0.1 mg/m³***Additional information:** *The lists valid during the making 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.***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.**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**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.*

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Trade name: CA80TN Reagent RB, Component 1

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Body protection: *Protective work clothing*

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	<i>Solid</i>
Colour:	<i>White</i>
Odour:	<i>Odourless</i>
Odour threshold:	<i>Not determined.</i>
pH-value:	<i>Not applicable.</i>

Change in condition

Melting point/freezing point:	<i>Undetermined.</i>
Initial boiling point and boiling range:	<i>Undetermined.</i>

Flash point: *Not applicable.*Flammability: *Product is not flammable.*Ignition temperature: *Not determined.*Explosive properties: *Product does not present an explosion hazard.
Not determined.*

Explosion limits:

Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>

Vapour pressure: *Not applicable.*Density at 20 °C: *1.1 g/cm³*Relative density: *Not determined.*Vapour density: *Not applicable.*Evaporation rate: *Not applicable.*

Solubility in / Miscibility with water:

*Soluble.*Partition coefficient: n-octanol/water: *Not determined.*

Viscosity:

Dynamic:	<i>Not applicable.</i>
Kinematic:	<i>Not applicable.</i>

Solids content: *100.0 %*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: *No dangerous reactions known.*Conditions to avoid: *No further relevant information available.*Incompatible materials: *No further relevant information available.*Hazardous decomposition products: *No dangerous decomposition products known.*

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— CDN —

Trade name: CA80TN Reagent RB, Component 1

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11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification:

CAS: 7775-27-1 sodium persulphate

Oral LD50 920 mg/kg (rat)

Primary irritant effect:

Skin corrosion/irritation No irritant effect.

Serious eye damage/irritation No irritating effect.

Respiratory or skin sensitisation

Sensitisation possible through inhalation.

Sensitisation possible through skin contact.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behaviour 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 (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.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

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.

*14 Transport information

UN-Number

IMDG, IATA

UN proper shipping name

ADR

IMDG

IATA

UN1505

UN1505 SODIUM PERSULPHATE

SODIUM PERSULPHATE

Sodium persulphate

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CDN

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Transport hazard class(es)

ADR



Class
Label

5.1 (O2) Oxidising substances.
5.1

IMDG, IATA



Class
Label

5.1 Oxidising substances.
5.1

Packing group

ADR, IMDG, IATA

III

Environmental hazards:

Not applicable.

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

Transport in bulk according to Annex II of
Marpol and the IBC Code

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

UN "Model Regulation":

UN 1505 SODIUM PERSULPHATE, 5.1, III

15 Regulatory information

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

GHS label elements

The substance is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS03



GHS07



GHS08

Signal word *Danger*

Hazard-determining components of labelling:

sodium persulphate

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— CDN —

Trade name: CA80TN Reagent RB, Component 1

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Hazard statements*May intensify fire; oxidizer.**Harmful if swallowed.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.***Precautionary statements***Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Keep away from clothing and other combustible materials.**Avoid breathing dust/fume/gas/mist/vapours/spray.**[In case of inadequate ventilation] wear respiratory protection.**Dispose of contents/container in accordance with local/regional/national/international regulations.***National regulations:****Waterhazard class:** *Water hazard class 1 (Assessment by list): 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 the latest revision of the safety data sheet** *09/21/2024 / 4***Abbreviations and acronyms:***IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**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**** Data compared to the previous version altered.**

1 Identification

Product identifier

Trade name: **CA80TN Reagent RB, Component 2**

Article number: 71495406

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: +1 604 682 5050

2 Hazard identification

Classification of the substance or mixture



GHS07

Skin Irritation - Category 2 H315 Causes skin irritation.

Eye Irritation - Category 2A 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 statements

Causes skin irritation.

Causes serious eye irritation.

Precautionary statements

Wear protective gloves/protective clothing/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.

* 3 Composition/Information on ingredients

Chemical characterisation: Mixtures

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

Dangerous components:

CAS: 1310-73-2	Sodium hydroxide	1-2.5% *
	 Skin Corrosion - Category 1A, H314;  Acute Toxicity (Oral) - Category 4, H302	

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Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 1)

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:** *Use fire extinguishing methods suitable to surrounding conditions.***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.***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.*

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

8 Exposure controls/ Personal protection

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

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Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 2)

Control parameters**Ingredients with limit values that require monitoring at the workplace:****CAS: 1310-73-2 Sodium hydroxide**EL Ceiling: 2 mg/m³EV Ceiling: 2 mg/m³**Additional information:** *The lists valid during the making 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.***Respiratory protection:** *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-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 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***Colour:***Colourless***Odour:***Odourless***Odour threshold:***Not determined.***pH-value:***Not determined.***Change in condition****Melting point/freezing point:***Undetermined.*

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Trade name: CA80TN Reagent RB, Component 2

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Initial boiling point and boiling range: 100 °C (CAS: 7732-18-5 water)

Flash point: Not applicable.

Flammability Not applicable.

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 (CAS: 7732-18-5 water)

Density at 20 °C: 1.008 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: 98.5 %

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 No dangerous reactions known.

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 relevant for classification:

CAS: 1310-73-2 Sodium hydroxide

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

Primary irritant effect:

Skin corrosion/irritation Irritant to skin and mucous membranes.

Serious eye damage/irritation Irritating effect.

Respiratory or skin sensitisation No sensitising effects known.

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— CDN —

Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 4)

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behaviour in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Not hazardous for water.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

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.

*14 Transport information

UN-Number

IMDG, IATA

UN1824

UN proper shipping name

ADR

UN1824 SODIUM HYDROXIDE SOLUTION

IMDG

SODIUM HYDROXIDE SOLUTION

IATA

Sodium hydroxide solution

Transport hazard class(es)

ADR



Class

8 (C5) Corrosive substances.

Label

8

IMDG, IATA



Class

8 Corrosive substances.

Label

8

Packing group

ADR, IMDG, IATA

III

Environmental hazards:

Not applicable.

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— CDN —

Trade name: CA80TN Reagent RB, Component 2

(Contd. of page 5)

Special precautions for user *Warning: Corrosive substances.*
Hazard identification number (Kemler code): 80
EMS Number: F-A,S-B
Segregation groups (SGG18) Alkalies
Stowage Category A
Segregation Code SG35 Stow "separated from" SGG1-acids
Transport in bulk according to Annex II of
Marpol and the IBC Code *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

15 Regulatory information

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

No further relevant information available.

GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS07

Signal word *Warning*

Hazard statements

Causes skin irritation.

Causes serious eye irritation.

Precautionary statements

Wear protective gloves/protective clothing/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.

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 the latest revision of the safety data sheet 09/21/2024 / 3

Abbreviations and acronyms:

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

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CDN —

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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

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

—CDN—

1 Identification

Product identifier

Trade name: **CA80TN Reagent RK**

Article number: 71495407

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: +1 604 682 5050

2 Hazard identification

Classification of the substance or mixture



GHS05 Corrosion

Serious Eye Damage - Category 1 H318 Causes serious eye damage.

Label elements

GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS05

Signal word *Danger*

Hazard-determining components of labelling:

hydrochloric acid

Hazard statements

Causes serious eye damage.

Precautionary statements

Wear protective gloves/protective clothing/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.

Immediately call a poison center/doctor.

* 3 Composition/Information on ingredients

Chemical characterisation: Mixtures

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

Dangerous components:

CAS: 7647-01-0	<i>hydrochloric acid</i>	2-6% *
	 Skin Corrosion - Category 1B, H314; Serious Eye Damage - Category 1, H318;  Acute Toxicity (Oral) - Category 4, H302; Specific Target Organ Toxicity - Single Exposure - Category 3, H335	

(Contd. on page 2)

Trade name: CA80TN Reagent RK

(Contd. of page 1)

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

4 First-aid measures

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.*

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: *Use fire extinguishing methods suitable to surrounding conditions.***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 equipment. Keep unprotected persons away.**Wear protective clothing.*

Environmental precautions:

*Dilute with plenty of water.**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).**Use neutralising agent.**Dispose contaminated material as waste according to section 13.*

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.*

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.*

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

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— CDN —

Trade name: CA80TN Reagent RK

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8 Exposure controls/ Personal protection

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

Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7647-01-0 hydrochloric acid

EL Ceiling: 2 ppm

EV Ceiling: 2 ppm

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.*

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: *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-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.

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*

(Contd. on page 4)

— CDN —

Trade name: CA80TN Reagent RK

(Contd. of page 3)

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.
pH-value:	Not determined.

Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C (CAS: 7732-18-5 water)

Flash point:	Not applicable.
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Flammability	Not applicable.
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Ignition temperature:	Product is not selfigniting.
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Explosive properties:	Product does not present an explosion hazard. Not determined.
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Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapour pressure at 20 °C:	23 hPa (CAS: 7732-18-5 water)
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Density at 20 °C:	1.006 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with

water:	Fully miscible.
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Partition coefficient: n-octanol/water:	Not determined.
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Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

Solvent content:

Water:	95.6 %
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Solids content:	0.0 %
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Other information	No further relevant information available.
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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 No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

(Contd. on page 5)

— CDN —

Trade name: CA80TN Reagent RK

(Contd. of page 4)

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification:

CAS: 7647-01-0 hydrochloric acid

Oral LD50 900 mg/kg (rabbit)

Primary irritant effect:

Skin corrosion/irritation No irritant effect.

Serious eye damage/irritation Strong irritant with the danger of severe eye injury.

Respiratory or skin sensitisation No sensitising effects known.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behaviour 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 (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.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

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.

14 Transport information

UN-Number

IMDG, IATA

Void

UN proper shipping name

ADR, IMDG, IATA

Void

Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

Packing group

ADR, IMDG, IATA

Void

(Contd. on page 6)

—CDN—

Trade name: CA80TN Reagent RK

(Contd. of page 5)

Environmental hazards:	Not applicable.
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
UN "Model Regulation":	Void

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



GHS05

Signal word *Danger*

Hazard-determining components of labelling:

hydrochloric acid

Hazard statements

Causes serious eye damage.

Precautionary statements

Wear protective gloves/protective clothing/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.

Immediately call a poison center/doctor.

National regulations:

Waterhazard 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 the latest revision of the safety data sheet *09/21/2024 / 5*

Abbreviations and acronyms:

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)

DNEL: Derived No-Effect Level (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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