

09/21/2024

Kit Components

Product code	Description
CY80TP-FF+SW	CA80TP Reagent Set for total phosphate

Components:

71251096B	CA80TP Reagent RB, Component 1
51509012D	CA80TP Reagent RK, Component 1
71251978D	CA80TP Reagent RN

1 Identification

Product identifier

Trade name: **CA80TP Reagent RB, Component 1**

Article number: 71251096B

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: CA80TP Reagent RB, Component 1

(Contd. of page 1)

*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.***Other hazards***The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.**** 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:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *No further relevant information available.***Protective equipment:** *No special measures required.***6 Accidental release measures****Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.*

(Contd. on page 3)

Trade name: CA80TP Reagent RB, Component 1

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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.***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*

(Contd. on page 4)

— CDN —

Trade name: CA80TP Reagent RB, Component 1

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Penetration time of glove material

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

Body protection: Protective work clothing

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Crystalline powder
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.
pH-value:	Slightly acidic

Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

Flash point: Not applicable.

Flammability Product is not flammable.

Decomposition temperature: Not determined.

Ignition temperature: Not determined.

Explosive properties: Product does not present an explosion hazard.
Not determined.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

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:

Easily soluble.

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

Viscosity:

Dynamic:	Not applicable.
Kinematic:	Not applicable.

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.

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— CDN —

Trade name: CA80TP Reagent RB, Component 1

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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: 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.***14 Transport information****UN-Number****IMDG, IATA**

UN1505

UN proper shipping name**ADR**

UN1505 SODIUM PERSULPHATE

IMDG

SODIUM PERSULPHATE

IATA

Sodium persulphate

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— CDN —

Safety Data Sheet

according to HPR, Schedule 1

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Printing date 09/21/2024

Version 5

Revision: 09/20/2024

Trade name: CA80TP Reagent RB, Component 1

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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: CA80TP 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:***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)**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.**

— CDN —

1 Identification

Product identifier

Trade name: CA80TP Reagent RK, Component 1

Article number: 51509012D

CAS Number:

50-81-7

EC number:

200-066-2

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

The substance is not classified, according to the Globally Harmonised System (GHS).

Label elements

GHS label elements *Void*

Hazard pictograms *Void*

Signal word *Void*

Hazard statements *Void*

Other hazards

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

* 3 Composition/Information on ingredients

Chemical characterisation: Substances

CAS No. Description

CAS: 50-81-7 L (+) - ascorbic acid

Identification number(s)

EC number: 200-066-2

4 First-aid measures

Description of first aid measures

General information: *No special measures required.*

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.*

After swallowing: *If symptoms persist consult doctor.*

Information for doctor:

Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 2)

— CDN —

Trade name: CA80TP Reagent RK, Component 1

(Contd. of page 1)

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, 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:** *Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:** *Pick up mechanically.***Reference to other sections***No dangerous substances are released.**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 measures required.***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:** *11***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:** *Not required.***Additional information:** *The lists valid during the making were used as basis.***Exposure controls****Personal protective equipment:****General protective and hygienic measures:***The usual precautionary measures are to be adhered to when handling chemicals.***Respiratory protection:** *Not required.***Protection of hands:** *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.***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.*

(Contd. on page 3)

Trade name: CA80TP Reagent RK, Component 1

(Contd. of page 2)

Eye protection: *Not required.*Body protection: *Protective work clothing*

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: *Crystalline powder*Colour: *Whitish*Odour: *Odourless*Odour threshold: *Not determined.*pH-value: *Slightly acidic*

Change in condition

Melting point/freezing point: *191 °C*Initial boiling point and boiling range: *Undetermined.*Flash point: *Not applicable.*Flammability: *Product is not flammable.*Decomposition temperature: *Not determined.*Ignition temperature: *Not determined.*Explosive properties: *Product does not present an explosion hazard.
Not determined.*

Explosion limits:

Lower: *Not determined.*Upper: *Not determined.*Vapour pressure: *Not applicable.*Density at 20 °C: *0.95 g/cm³*Relative density: *Not determined.*Vapour density: *Not applicable.*Evaporation rate: *Not applicable.*

Solubility in / Miscibility with

water at 20 °C: *333 g/l*Partition coefficient: n-octanol/water: *Not determined.*

Viscosity:

Dynamic: *Not applicable.*Kinematic: *Not applicable.*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.*

(Contd. on page 4)

— CDN —

Trade name: CA80TP Reagent RK, Component 1

(Contd. of page 3)

Hazardous decomposition products: *No dangerous decomposition products known.*

11 Toxicological information

Information on toxicological effects**Acute toxicity****LD/LC50 values relevant for classification:****CAS: 50-81-7 L (+) - ascorbic acid**

Oral LD50 11,900 mg/kg (rat)

Primary irritant effect:**Skin corrosion/irritation** *No irritant effect.***Serious eye damage/irritation** *No irritating effect.***Respiratory or skin sensitisation** *No sensitising effects known.***Additional toxicological information:***When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.**The substance is not subject to classification according to the latest version of the EU lists.*

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** *Smaller quantities can be disposed of with household waste.***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**ADN, IMDG, IATA**

Void

UN proper shipping name**ADR, ADN, IMDG, IATA**

Void

Transport hazard class(es)**ADR, ADN, IMDG, IATA****Class**

Void

Packing group**ADR, IMDG, IATA**

Void

(Contd. on page 5)

—CDN—

Trade name: CA80TP Reagent RK, Component 1

(Contd. of page 4)

Environmental hazards:**Marine pollutant:** No**Special precautions for user** Not applicable.**Transport in bulk according to Annex II of
Marpol and the IBC Code** Not applicable.**Transport/Additional information:** Not dangerous according to the above specifications.**UN "Model Regulation":** Void**15 Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****GHS label elements** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**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:**

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)

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: **CA80TP Reagent RN**

Article number: 71251978D

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

Skin Corrosion - Category 1A H314 Causes severe skin burns and eye damage.

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:

sulphuric acid

Hazard statements

Causes severe skin burns and eye damage.

Precautionary statements

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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.

Specific treatment (see on this label).

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

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

* 3 Composition/Information on ingredients

Chemical characterisation: Mixtures

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

(Contd. on page 2)

— CDN —

Trade name: CA80TP Reagent RN

(Contd. of page 1)

Dangerous components:

CAS: 7664-93-9 | sulphuric acid



Skin Corrosion - Category 1A, H314

20-40% *

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. Then consult a doctor.**After swallowing:** Drink plenty of water and provide fresh air. 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:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents:** no further information**Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

Advice for firefighters No further relevant information available.**Protective equipment:** Mount respiratory protective device.**6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

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.

Ensure adequate ventilation.

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.

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— CDN —

Trade name: CA80TP Reagent RN

(Contd. of page 2)

*Prevent formation of aerosols.***Information about fire - and explosion protection:** *Keep respiratory protective device available.***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.***Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7664-93-9 sulphuric acid**EL TWA: 0.2 mg/m³
thoracic, ACGIH A2; IARC 1EV TWA: 0.2 mg/m³**DNELs****CAS: 7664-93-9 sulphuric acid**Inhalative DNEL short-term 0.1 mg/m³ (worker) (local effects)DNEL long-term 0.05 mg/m³ (worker) (local effects)**PNECs****CAS: 7664-93-9 sulphuric acid**

PNEC 8.8 mg/L (Wastewater treatment plant)

0.25 mg/L (sea water)

PNEC 2.5 µg/L (fresh water)

PNEC 2 µg/kg (marine sediment)

2 µg/kg (freshwater sediment)

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:***In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.***Protection of hands:***Protective gloves**To avoid skin problems reduce the wearing of gloves to the required minimum.**Only use chemical-protective gloves with CE-labelling of category III.**The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.***Material of gloves***Nitrile rubber, NBR*

(Contd. on page 4)

—CDN—

Trade name: CA80TP Reagent RN

(Contd. of page 3)

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

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

Eye protection:*Tightly sealed goggles***Body protection:** *Protective work clothing***9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:****Form:***Fluid***Colour:***According to product specification***Odour:***Characteristic***Odour threshold:***Not determined.***pH-value at 20 °C:***<1***Change in condition****Melting point/freezing point:***Undetermined.***Initial boiling point and boiling range:** *100 °C***Flash point:***Not applicable.***Flammability***Not applicable.***Decomposition temperature:***Not determined.***Ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.
Not determined.***Explosion limits:****Lower:***Not determined.***Upper:***Not determined.***Vapour pressure at 20 °C:***23 hPa***Density:***Not determined.***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.*

(Contd. on page 5)

Trade name: CA80TP Reagent RN

(Contd. of page 4)

Solvent content:**Water:** 67.3 %**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:**

Oral | LD50 | 5,800 mg/kg (mouse)

Primary irritant effect:**Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.**Serious eye damage/irritation**

Strong caustic effect.

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:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, 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.

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Trade name: CA80TP Reagent RN

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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**

UN2796

UN proper shipping name**ADR**

UN2796 SULPHURIC ACID

IMDG

SULPHURIC ACID

IATA

Sulphuric acid

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

8 (C1) Corrosive substances.

Label

8

IMDG, IATA**Class**

8 Corrosive substances.

Label

8

Packing group**ADR, IMDG, IATA**

II

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

(SGG1a) Strong acids

Stowage Category

B

Segregation Code

SG36 Stow "separated from" SGG18-alkalis.

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)**

1L

Transport category

2

Tunnel restriction code

E

(Contd. on page 7)

— CDN —

Trade name: CA80TP Reagent RN

(Contd. of page 6)

IMDG**Limited quantities (LQ)**

1L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN 2796 SULPHURIC ACID, 8, II

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:***sulphuric acid***Hazard statements***Causes severe skin burns and eye damage.***Precautionary statements***IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**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.**Specific treatment (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***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 / 4**Abbreviations and acronyms:***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)**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)**PNEC: Predicted No-Effect Concentration (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.**