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

Components:

71251096B	CA80TP Reagent RB, Component 1
51509012D	CA80TP Reagent RK, Component 1
51509014D	CA80TP Reagent RN, Component 1
51509015D	CA80TP Reagent RN, Component 2
51509017D	CA80TP Reagent RN, Component 3

*

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

1.1 Product identifier

Trade name: CA80TP Reagent RB, Component 1

Article number: *71251096B*

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: *0091-26589391*

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 CLP regulation.
Hazard pictograms

GHS03 GHS07 GHS08

Signal word *Danger*

(Contd. on page 2)

(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
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

*
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:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents: *no further information*
5.2 Special hazards arising from the substance or mixture *No further relevant information available.*

(Contd. on page 3)

(Contd. of page 2)

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: *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.

(Contd. on page 4)

(Contd. of page 3)

Nitrile rubber, NBR
Natural rubber, NR

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*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Physical state	*Solid*
Colour:	*Colourless*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*Undetermined.*
Boiling point or initial boiling point and boiling range	*Undetermined.*
Flammability	*Product is not flammable.*
Lower and upper explosion limit	
Lower:	*Not determined.*
Upper:	*Not determined.*
Flash point:	*Not applicable.*
Decomposition temperature:	*Not determined.*
pH	*Slightly acidic*
Viscosity:	
Kinematic viscosity	*Not applicable.*
Dynamic:	*Not applicable.*
Solubility	
water:	*Easily soluble.*
Partition coefficient n-octanol/water (log value)	*Not determined.*
Vapour pressure:	*Not applicable.*
Density and/or relative density	
Density at 20 °C:	*1.1 g/cm³*
Relative density	*Not determined.*
Vapour density	*Not applicable.*

9.2 Other information

Appearance:	
Form:	*Crystalline powder*
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	*Not determined.*
Explosive properties:	*Product does not present an explosion hazard.*
	Not determined.
Solids content:	*100.0 %*
Change in condition	
Evaporation rate	*Not applicable.*

Information with regard to physical hazard classes

Explosives	*Void*
Flammable gases	*Void*
Aerosols	*Void*
Oxidising gases	*Void*
Gases under pressure	*Void*
Flammable liquids	*Void*
Flammable solids	*Void*

(Contd. on page 5)

(Contd. of page 4)

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	*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

(Contd. on page 6)

(Contd. of page 5)

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

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.*

* 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*

(Contd. on page 7)

(Contd. of page 6)

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*

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 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:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

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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
Skin Sens. 1: Skin sensitisation – Category 1

*** 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: CA80TP Reagent RK, Component 1

Article number: *51509012D*

CAS Number:
50-81-7
EC number:
200-066-2

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: *0091-26589391*

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
The substance is not classified, according to the CLP regulation.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*
2.3 Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

*
SECTION 3: Composition/information on ingredients

3.1 Substances
CAS No. Description
CAS: 50-81-7 L (+) - ascorbic acid
Identification number(s)
EC number: *200-066-2*

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: *No special measures required.*

After inhalation: *Supply fresh air; consult doctor in case of complaints.*

(Contd. on page 2)

(Contd. of page 1)

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.*
4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
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: *Do not allow to enter sewers/ surface or ground water.*
6.3 Methods and material for containment and cleaning up: *Pick up mechanically.*
6.4 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling *No special measures required.*
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: *11*
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:
The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: *Not required.*

(Contd. on page 3)

(Contd. of page 2)

Hand protection *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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection *Not required.*

Body protection: *Protective work clothing*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Physical state	*Solid*
Colour:	*Whitish*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*191 °C*
Boiling point or initial boiling point and boiling range	*Undetermined.*
Flammability	*Product is not flammable.*
Lower and upper explosion limit	
Lower:	*Not determined.*
Upper:	*Not determined.*
Flash point:	*Not applicable.*
Decomposition temperature:	*Not determined.*
pH	*Slightly acidic*
Viscosity:	
Kinematic viscosity	*Not applicable.*
Dynamic:	*Not applicable.*
Solubility	
water at 20 °C:	*333 g/l*
Partition coefficient n-octanol/water (log value)	*Not determined.*
Vapour pressure:	*Not applicable.*
Density and/or relative density	
Density at 20 °C:	*0.95 g/cm³*
Relative density	*Not determined.*
Vapour density	*Not applicable.*

9.2 Other information

Appearance:	
Form:	*Crystalline powder*
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	*Not determined.*
Explosive properties:	*Product does not present an explosion hazard.*
	Not determined.
Solids content:	*100.0 %*
Change in condition	
Evaporation rate	*Not applicable.*

Information with regard to physical hazard classes

Explosives	*Void*
Flammable gases	*Void*
Aerosols	*Void*

(Contd. on page 4)

(Contd. of page 3)

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: 50-81-7 L (+) - ascorbic acid		
Oral	*LD50*	*11,900 mg/kg (rat)*

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

(Contd. on page 5)

(Contd. of page 4)

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

SECTION 13: Disposal considerations

13.1 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.*

SECTION 14: Transport information

14.1 UN number or ID number	
ADN, IMDG, IATA	*Void*
14.2 UN proper shipping name	
ADR, ADN, 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:	
Marine pollutant:	*No*
14.6 Special precautions for user	*Not applicable.*
14.7 Maritime transport in bulk according to IMO instruments	*Not applicable.*
Transport/Additional information:	*Not dangerous according to the above specifications.*
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 *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*

Directive 2012/18/EU
Named dangerous substances - ANNEX I *Substance is not listed.*

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:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation

(Contd. on page 6)

(Contd. of page 5)

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
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

*** 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: CA80TP Reagent RN, Component 1

Article number: *51509014D*

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: *0091-26589391*

*
SECTION 2: Hazards identification

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

corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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

GHS05

Signal word *Danger*

Hazard-determining components of labelling:
sulphuric acid
Hazard statements
H314 Causes severe skin burns and eye damage.
Precautionary statements
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

(Contd. of page 1)

Additional information:
Product contains: Restricted explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 5 (1) and (3).
2.3 Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

SECTION 3: Composition/information on ingredients

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

Dangerous components:		
CAS: 7664-93-9 *EINECS: 231-639-5*	*sulphuric acid* *Skin Corr. 1A, H314* *Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 %* *Skin Irrit. 2; H315: 5 % ≤ C < 15 %* *Eye Irrit. 2; H319: 5 % ≤ C < 15 %*	*30-50%*

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: *Immediately remove any clothing soiled by the product.*

After inhalation: *In case of unconsciousness place patient stably in side position for transportation.*

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.

After eye contact: *Rinse opened eye for several minutes under running water. Then consult a doctor.*

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

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

SECTION 5: Firefighting measures

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.

(Contd. on page 3)

(Contd. of page 2)

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.
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
When diluting always pour product into water and not vice versa.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about fire - and explosion protection: *Keep respiratory protective device available.*

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: 7664-93-9 sulphuric acid	
IOELV (EU)	*Long-term value: 0.05 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.*

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.

(Contd. on page 4)

(Contd. of page 3)

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.

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
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/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*
Flammability	*Not applicable.*
Lower and upper explosion limit	
Lower:	*Not determined.*
Upper:	*Not determined.*
Flash point:	*Not applicable.*
Decomposition temperature:	*Not determined.*
pH at 20 °C	*<1*
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*

(Contd. on page 5)

(Contd. of page 4)

Density and/or relative density	
Density at 20 °C:	*1.42 g/cm³*
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:	*50.0 %*
Solids content:	*0.0 %*
Change in condition	
Evaporation rate	*Not determined.*
Information with regard to physical hazard classes	
Explosives	*Void*
Flammable gases	*Void*
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
Skin corrosion/irritation *Causes severe skin burns and eye damage.*
Serious eye damage/irritation *Causes serious eye damage.*

(Contd. on page 6)

(Contd. of page 5)

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:
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.

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 *UN2796*
14.2 UN proper shipping name
ADR *UN2796 SULPHURIC ACID*
IMDG *SULPHURIC ACID*
IATA *Sulphuric acid*
14.3 Transport hazard class(es)

ADR

Class *8 (C1) Corrosive substances.*

(Contd. on page 7)

(Contd. of page 6)

Label	*8*

IMDG, IATA

Class	*8 Corrosive substances.*
Label	*8*
14.4 Packing group	
ADR, IMDG, IATA	*II*
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	*Strong acids*
Stowage Category	*B*
Segregation Code	*SG36 Stow "separated from" SGG18-alkalis.* *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)	*1L*
Transport category	*2*
Tunnel restriction code	*E*

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*

*
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 CLP regulation.
Hazard pictograms

GHS05

Signal word *Danger*

Hazard-determining components of labelling:
sulphuric acid
Hazard statements
H314 Causes severe skin burns and eye damage.
Precautionary statements
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).

(Contd. on page 8)

(Contd. of page 7)

P405 *Store locked up.*
P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

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
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:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
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 (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
*** Data compared to the previous version altered.**

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

1.1 Product identifier

Trade name: CA80TP Reagent RN, Component 2

Article number: *51509015D*

CAS Number:
12054-85-2
EC number:
234-722-4

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: *0091-26589391*

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
The substance is not classified, according to the CLP regulation.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*
2.3 Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

*
SECTION 3: Composition/information on ingredients

3.1 Substances
CAS No. Description
CAS: 12054-85-2 Ammonium heptamolybdate tetrahydrate
Identification number(s)
EC number: *234-722-4*

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: *No special measures required.*

After inhalation: *Supply fresh air; consult doctor in case of complaints.*

(Contd. on page 2)

(Contd. of page 1)

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.*
4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
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: *Do not allow to enter sewers/ surface or ground water.*
6.3 Methods and material for containment and cleaning up: *Pick up mechanically.*
6.4 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling *No special measures required.*
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: *11*
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.*

DNELs		
CAS: 12054-85-2 Ammonium heptamolybdate tetrahydrate		
Inhalative	*DNEL long-term*	*13.36 mg/m³ (worker) (systemic effect)*

PNECs	
CAS: 12054-85-2 Ammonium heptamolybdate tetrahydrate	
PNEC	*37.61 mg/L (Wastewater treatment plant)* *22.01 mg/L (fresh water)*

(Contd. on page 3)

(Contd. of page 2)

	3.94 mg/L (sea water)
PNEC	*4,090 mg/kg (marine sediment)*
	39,170 mg/kg (freshwater sediment)
	16.46 mg/kg /dw (soil)

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:
The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: *Not required.*

Hand protection *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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection *Not required.*

Body protection: *Protective work clothing*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Physical state	*Solid*
Colour:	*White*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*90 °C*
Boiling point or initial boiling point and boiling range	*Undetermined.*
Flammability	*Product is not flammable.*
Lower and upper explosion limit	
Lower:	*Not determined.*
Upper:	*Not determined.*
Flash point:	*Not applicable.*
Decomposition temperature:	*Not determined.*
pH	*5.3*
Viscosity:	
Kinematic viscosity	*Not applicable.*
Dynamic:	*Not applicable.*
Solubility	
water at 20 °C:	*400 g/l*
Partition coefficient n-octanol/water (log value)	*Not determined.*
Vapour pressure:	*Not applicable.*
Density and/or relative density	
Density at 20 °C:	*2.498 g/cm³*
Relative density	*Not determined.*
Bulk density:	*800 kg/m³*
Vapour density	*Not applicable.*

(Contd. on page 4)

(Contd. of page 3)

9.2 Other information

Appearance:	
Form:	*Crystalline powder*
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	*Not determined.*
Explosive properties:	*Product does not present an explosion hazard.* *Not determined.*
Solids content:	*100.0 %*
Change in condition	
Evaporation rate	*Not applicable.*

Information with regard to physical hazard classes	
Explosives	*Void*
Flammable gases	*Void*
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

11.2 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.*

(Contd. on page 5)

(Contd. of page 4)

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) (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.

SECTION 13: Disposal considerations

13.1 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.*

SECTION 14: Transport information

14.1 UN number or ID number
ADN, IMDG, IATA *Void*
14.2 UN proper shipping name
ADR, ADN, 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:
Marine pollutant: *No*
14.6 Special precautions for user *Not applicable.*
14.7 Maritime transport in bulk according to IMO instruments *Not applicable.*

Transport/Additional information: *Not dangerous according to the above specifications.*
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 *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*

Directive 2012/18/EU
Named dangerous substances - ANNEX I *Substance is not 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.*

(Contd. on page 6)

(Contd. of page 5)

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:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
*** 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: CA80TP Reagent RN, Component 3

Article number: *51509017D*

CAS Number:
28300-74-5
EC number:
234-293-3

Index number:
050-003-00-9

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: *0091-26589391*

SECTION 2: Hazards identification

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

environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Acute Tox. 4 *H302 Harmful if swallowed.*
Acute Tox. 4 *H332 Harmful if inhaled.*

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
Hazard pictograms

GHS07 GHS09

Signal word *Warning*

Hazard-determining components of labelling:
antimony potassium tartrate
Hazard statements
H302+H332 Harmful if swallowed or if inhaled.

(Contd. on page 2)

(Contd. of page 1)

H411 *Toxic to aquatic life with long lasting effects.*
Precautionary statements
P261 *Avoid breathing dust/fume/gas/mist/vapours/spray.*
P301+P312 *IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*
P330 *Rinse mouth.*
P304+P340 *IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*
2.3 Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
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: 28300-74-5 antimony potassium tartrate
Identification number(s)
EC number: *234-293-3*
Index number: *050-003-00-9*

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.

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: *Call for a doctor immediately.*
4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
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: *Mount respiratory protective device.*

SECTION 6: Accidental release measures

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

(Contd. on page 3)

(Contd. of page 2)

6.2 Environmental precautions:
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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
Thorough dedusting.
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: *Keep container tightly sealed.*
Storage class: *6.1 C*
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.
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
To avoid skin problems reduce the wearing of gloves to the required minimum.
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.

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*

(Contd. on page 4)

(Contd. of page 3)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Physical state	*Solid*
Colour:	*White*
Odour:	*Unpleasant*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*Undetermined.*
Boiling point or initial boiling point and boiling range	*Undetermined.*
Flammability	*Product is not flammable.*
Lower and upper explosion limit	
Lower:	*Not determined.*
Upper:	*Not determined.*
Flash point:	*Not applicable.*
Decomposition temperature:	*Not determined.*
pH	*Not applicable.*
Viscosity:	
Kinematic viscosity	*Not applicable.*
Dynamic:	*Not applicable.*
Solubility	
water at 20 °C:	*59 g/l*
Partition coefficient n-octanol/water (log value)	*Not determined.*
Vapour pressure:	*Not applicable.*
Density and/or relative density	
Density at 20 °C:	*2.6 g/cm³*
Relative density	*Not determined.*
Vapour density	*Not applicable.*

9.2 Other information

Appearance:	
Form:	*Powder*
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	*Not determined.*
Explosive properties:	*Product does not present an explosion hazard.*
	Not determined.
Solids content:	*100.0 %*
Change in condition	
Evaporation rate	*Not applicable.*

Information with regard to physical hazard classes	
Explosives	*Void*
Flammable gases	*Void*
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*

(Contd. on page 5)

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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 *Harmful if swallowed or if inhaled.*

LD/LC50 values relevant for classification:		
CAS: 28300-74-5 antimony potassium tartrate		
Oral	*LD50*	*115 mg/kg (rat)*

11.2 Information on other hazards

Endocrine disrupting properties
Substance is not listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:	
CAS: 28300-74-5 antimony potassium tartrate	
EC50[48h]	*5 mg/l (crustacean)*
EC50[96h]	*37 mg/l (Fish)*

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
Remark: *Toxic for fish*
Additional ecological information:
General notes:
Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

(Contd. on page 6)

(Contd. of page 5)

SECTION 13: Disposal considerations

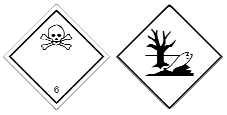
13.1 Waste treatment methods
Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

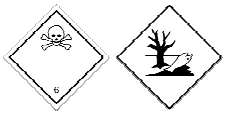
14.1 UN number or ID number
IMDG, IATA *UN1551*
14.2 UN proper shipping name
ADR *UN1551 ANTIMONY POTASSIUM TARTRATE*
IMDG *ANTIMONY POTASSIUM TARTRATE, MARINE POLLUTANT*
IATA *Antimony potassium tartrate*
14.3 Transport hazard class(es)

ADR



Class *6.1 (T5) Toxic substances.*
Label *6.1*

IMDG



Class *6.1 Toxic substances.*
Label *6.1*

IATA

Class *6.1 Toxic substances.*
Label *6.1*
14.4 Packing group
ADR, IMDG, IATA *III*
14.5 Environmental hazards: *Product contains environmentally hazardous substances: antimony potassium tartrate*
Marine pollutant: *Yes*
Symbol (fish and tree)
Special marking (ADR): *Symbol (fish and tree)*
14.6 Special precautions for user *Warning: Toxic substances.*
Hazard identification number (Kemler code): *60*
EMS Number: *F-A,S-A*
Stowage Category *A*
14.7 Maritime transport in bulk according to IMO instruments *Not applicable.*

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Transport/Additional information:

ADR	
Limited quantities (LQ)	*5 kg*
Transport category	*2*
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 1551 ANTIMONY POTASSIUM TARTRATE, 6.1, III, ENVIRONMENTALLY HAZARDOUS*

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 CLP regulation.
Hazard pictograms

GHS07 GHS09

Signal word *Warning*

Hazard-determining components of labelling:
antimony potassium tartrate
Hazard statements
H302+H332 Harmful if swallowed or if inhaled.
H411 Toxic to aquatic life with long lasting effects.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 *E2 Hazardous to the Aquatic Environment*
Qualifying quantity (tonnes) for the application of lower-tier requirements *200 t*
Qualifying quantity (tonnes) for the application of upper-tier requirements *500 t*

National regulations:

Waterhazard class: *Water hazard class 3 (Assessment by list): extremely 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*

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Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
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
Acute Tox. 4: Acute toxicity – Category 4
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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