

SECTION 1: Identification

Product identifier

Trade name: Pufferlösung CPY3 +468 mV

Synonym: *Buffer Solution CPY3 +468 mV*

Article number: *CPY3-B-5*

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*

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*

*Regional representation:
Endress+Hauser Australia Pty Ltd
16 Giffnock Avenue
Macquarie Park, NSW 2113
Australia*

*Phone: 1300 363 707
Phone: +61 2 8877 7000*

Emergency telephone number: *Poison Hotline: 13 11 26*

SECTION 2: Hazard(s) Identification

Classification of the substance or mixture



corrosion

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

Eye Dam. 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.*

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*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.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***SECTION 3: Composition and Information on Ingredients****Mixtures****Description:** *Mixture of substances listed below with nonhazardous additions.*

Dangerous components:		
CAS: 7664-93-9 EINECS: 231-639-5	<i>sulphuric acid</i> ☠ Skin Corr. 1A, H314	2-6%
CAS: 10028-22-5 EINECS: 233-072-9	<i>iron(III) sulfate</i> ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irritation 2A, H319	2-6%
CAS: 7720-78-7 EINECS: 231-753-5	<i>iron(II) sulfate</i> ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irritation 2A, H319	1-2.5%

Additional information: *For the wording of the listed hazard phrases refer to section 16.***SECTION 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.***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.***SECTION 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.***SECTION 6: Accidental Release Measures****Personal precautions, protective equipment and emergency procedures***Mount respiratory protective device.*

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(Contd. of page 2)

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 item 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.

SECTION 7: Handling and Storage

Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection: *Keep respiratory protective device available.*

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

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

SECTION 8: Exposure controls and personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7664-93-9 sulphuric acid

WES (Australia)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
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IOELV (EU)	Long-term value: 0.05 mg/m ³
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CAS: 10028-22-5 iron(III) sulfate

WES (Australia)	Long-term value: 1 mg/m ³ as Fe
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CAS: 7720-78-7 iron(II) sulfate

WES (Australia)	Long-term value: 1 mg/m ³ as Fe
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DNELs

CAS: 7664-93-9 sulphuric acid

Inhalative	DNEL short-term	0.1 mg/m ³ (worker) (local effects)
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	DNEL long-term	0.05 mg/m ³ (worker) (local effects)
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PNECs

CAS: 7664-93-9 sulphuric acid

PNEC	8.8 mg/L (Wastewater treatment plant)
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	0.25 mg/L (sea water)
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PNEC	2.5 µg/L (fresh water)
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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

Appropriate engineering controls *No further data; see item 7.*

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Respiratory protection:

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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eyeface protection



Tightly sealed goggles

Body protection: *Protective work clothing*

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

General Information

Physical state

Fluid

Colour:

Dark yellow

Odour:

Odourless

Odour threshold:

Not determined.

Melting point/freezing point:

Undetermined.

Boiling point or initial boiling point and boiling range

Undetermined.

Flammability

Not applicable.

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Lower and upper explosion limit	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
Decomposition temperature:	<i>Not determined.</i>
pH at 20 °C	<2
Viscosity:	
Kinematic viscosity	<i>Not determined.</i>
Dynamic:	<i>Not determined.</i>
Solubility	
water:	<i>Fully miscible.</i>
Partition coefficient n-octanol/water (log value)	<i>Not determined.</i>
Vapour pressure at 20 °C:	23 hPa
Density and/or relative density	
Density at 20 °C:	1.1 g/cm ³
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>
Other information	
Appearance:	
Form:	<i>Fluid</i>
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	<i>Product is not selfigniting.</i>
Explosive properties:	<i>Product does not present an explosion hazard. Not determined.</i>
Solvent content:	
Water:	90-95 %
Solids content:	0.0 %
Change in condition	
Evaporation rate	<i>Not determined.</i>
Information with regard to physical hazard classes	
Explosives	<i>Void</i>
Flammable gases	<i>Void</i>
Aerosols	<i>Void</i>
Oxidising gases	<i>Void</i>
Gases under pressure	<i>Void</i>
Flammable liquids	<i>Void</i>
Flammable solids	<i>Void</i>
Self-reactive substances and mixtures	<i>Void</i>
Pyrophoric liquids	<i>Void</i>
Pyrophoric solids	<i>Void</i>
Self-heating substances and mixtures	<i>Void</i>
Substances and mixtures, which emit flammable gases in contact with water	<i>Void</i>
Oxidising liquids	<i>Void</i>
Oxidising solids	<i>Void</i>
Organic peroxides	<i>Void</i>
Corrosive to metals	<i>Void</i>
Desensitised explosives	<i>Void</i>

SECTION 10: Stability and ReactivityReactivity *No further relevant information available.***Chemical stability****Thermal decomposition / conditions to be avoided:***No decomposition if used according to specifications.*

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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.*

SECTION 11: Toxicological Information

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.***Information on other hazards****Endocrine disrupting properties***None of the ingredients is listed.*

SECTION 12: Ecological Information

Toxicity**Aquatic toxicity:** *No further relevant information available.***Persistence and degradability** *No further relevant information available.***Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Endocrine disrupting properties***The product does not contain substances with endocrine disrupting properties.***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

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

UN number or ID number**IMDG, IATA**

UN2796

UN proper shipping name**ADG**

UN2796 SULPHURIC ACID

IMDG

SULPHURIC ACID

IATA

Sulphuric acid

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Transport hazard class(es)

ADG



Class 8 (C1) Corrosive substances.
Label 8

IMDG, IATA



Class 8 Corrosive substances.
Label 8
Packing group
ADG, 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 Strong acids
Stowage Category B
Segregation Code SG36 Stow "separated from" SGG18-alkalis.
 SG49 Stow "separated from" SGG6-cyanides
Maritime transport in bulk according to IMO instruments Not applicable.

Transport/Additional information:

ADG

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

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

Australian Inventory of Industrial Chemicals

All ingredients are listed.

Standard for the Uniform Scheduling of Medicines and Poisons

CAS: 7664-93-9 sulphuric acid

S6

Australia: Priority Existing Chemicals

None of the ingredients is listed.

GHS label elements

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

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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.***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.***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.

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)**ICAO: International Civil Aviation Organisation**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**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**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A**** Data compared to the previous version altered.**