

* SECTION 1: Identification of the substance or mixture and of the supplier

1.1 Product identifier

Trade name: **Buffer solution CPY3 +468 mV**

Synonym: +/- 5mV

Article number: CPY3-B-5

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: 0064 800 764 766

* SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

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

Serious eye damage Category 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)

NZ

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 1)

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 Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 7664-93-9 EINECS: 231-639-5	sulphuric acid ⚠ Skin corrosion Category 1A, H314	2-6%
CAS: 10028-22-5 EINECS: 233-072-9	iron(III) sulfate ⚠ Acute oral toxicity Category 4, H302; Skin irritation Category 2, H315; Eye irritation Category 2, H319	2-6%
CAS: 7720-78-7 EINECS: 231-753-5	iron(II) sulfate ⚠ Acute oral toxicity Category 4, H302; Skin irritation Category 2, H315; Eye irritation Category 2, H319	1-2.5%

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

SECTION 4: First aid measures**4.1 Description of first aid measures**

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

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

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

After eye contact: Rinse opened eye for several minutes under running water. 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: Fire fighting 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)

Trade name: Buffer solution CPY3 +468 mV

(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 section 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***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.***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**WES (New Zealand) Long-term value: 0.1 mg/m³
confirmed carcinogenIOELV (EU) Long-term value: 0.05 mg/m³**CAS: 10028-22-5 iron(III) sulfate**WES (New Zealand) Long-term value: 1 mg/m³
as Fe**CAS: 7720-78-7 iron(II) sulfate**WES (New Zealand) Long-term value: 1 mg/m³
as Fe**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)

(Contd. on page 4)

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 3)

Additional information: *The lists valid during the making were used as basis.***8.2 Exposure controls****Appropriate engineering controls** *No further data; see section 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****9.1 Information on basic physical and chemical properties****General Information****Physical state***Liquid***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.***Lower and upper explosion limit****Lower:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.*

(Contd. on page 5)

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 4)

Decomposition temperature:	Not determined.
pH at 20 °C	<2
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
Density and/or relative density	
Density at 20 °C:	1.1 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Particle characteristics	Not applicable.

9.2 Other information**Appearance:****Form:**

Fluid

Important information on protection of health and environment, and on safety.**Ignition temperature:**

Product is not selfigniting.

Explosive properties:Product does not present an explosion hazard.
Not determined.**Solvent content:****Water:**

90-95 %

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.

(Contd. on page 6)

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 5)

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 *Based on available data, the classification criteria are not met.***Primary irritant effect:****Skin corrosion/irritation** *Causes severe skin burns and eye damage.***Serious eye damage/irritation** *Causes serious eye damage.*

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: *No further relevant information available.***12.2 Persistence and degradability** *No further relevant information available.***12.3 Bioaccumulative potential** *No further relevant information available.***12.4 Mobility in soil** *No further relevant information available.*

12.5 Results of PBT and vPvB assessment

PBT: *Not applicable.***vPvB:** *Not applicable.*

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

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

NZS

UN2796 SULPHURIC ACID

IMDG

SULPHURIC ACID

IATA

Sulphuric acid

(Contd. on page 7)

— NZ —

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 6)

14.3 Transport hazard class(es)

NZS

Class
Label8 (C1) Corrosive substances.
8

IMDG, IATA

Class
Label8 Corrosive substances.
8

14.4 Packing group

NZS, 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

(SGG1a) 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:

NZS

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

New Zealand Inventory of Chemicals

All ingredients are listed.

HSNO Approval numbers

None of the ingredients is listed.

Labelling according to Regulation (EC) No 1272/2008

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

(Contd. on page 8)

— NZ —

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 7)

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.*

Directive 2012/18/EU

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

National regulations:

Waterhazard class: *Water hazard class 1 (Self-assessment): slightly hazardous for water.*15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

16.1 Relevant phrases

*H302 Harmful if swallowed.**H314 Causes severe skin burns and eye damage.**H315 Causes skin irritation.**H319 Causes serious eye irritation.*

16.3 Recommended restriction of use

Department issuing SDS: PCC-TWR

Contact: MSDS.pcc@endress.com

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

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

Acute oral toxicity Category 4: Acute toxicity – Category 4

Skin corrosion Category 1A: Skin corrosion/irritation – Category 1A

Skin irritation Category 2: Skin corrosion/irritation – Category 2

Serious eye damage Category 1: Serious eye damage/eye irritation – Category 1

(Contd. on page 9)

Safety Data Sheet

Page 9/9

in accordance with HSNO

Date of issue: 03.09.2025

Version 13 (replaces version 12)

Revision: 03.09.2025

Trade name: Buffer solution CPY3 +468 mV

(Contd. of page 8)

Eye irritation Category 2: Serious eye damage/eye irritation – Category 2

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

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