

20.09.2024

Kit Components

Product code	Description
CAY246-VxxAAE	CA72TP Reagent set for total phosphate blue

Components:

71251096	Reagent TP1, Component 1 for total phosphate
71251975C	Reagent TP2 for total phosphate (A+B)
71251978C	Reagent TP3 for total phosphate (A+B)

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** Reagent TP1, Component 1**Synonym:** *for total phosphate***Article number:** 71251096**CAS Number:**

7775-27-1

EC number:

231-892-1

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

Emergency telephone number: 00971 800 424 (from 7 am to 3 pm, from Sunday to Thursday)**SECTION 2: Hazards identification****Classification of the substance or mixture***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.***Label elements****GHS label elements***The substance is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS03 GHS07 GHS08

Signal word *Danger*

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Trade name: Reagent TP1, Component 1

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Hazard-determining components of labelling:*sodium persulphate***Hazard statements***May intensify fire; oxidiser.**Harmful if swallowed.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.***Precautionary statements***Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Keep away from clothing and other combustible materials.**Avoid breathing dust/fume/gas/mist/vapours/spray.**[In case of inadequate ventilation] wear respiratory protection.**Dispose of contents/container in accordance with local/regional/national/international regulations.***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****Substances****CAS No. Description***CAS: 7775-27-1 sodium persulphate***Identification number(s)***EC number: 231-892-1***SECTION 4: First aid measures****Description of first aid measures****General information:***Immediately remove any clothing soiled by the product.**Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.***After inhalation:***Supply fresh air and to be sure call for a doctor.**In case of unconsciousness place patient stably in side position for transportation.***After skin contact:***Immediately wash with water and soap and rinse thoroughly.**Immediately rinse with water.***After eye contact:** *Rinse opened eye for several minutes under running water.***After swallowing:** *Call for a doctor immediately.***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: Firefighting measures****Extinguishing media****Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.*

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Trade name: Reagent TP1, Component 1

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Advice for firefighters No further relevant information available.**Protective equipment:** No special measures required.**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures** Wear protective clothing.**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

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** Ensure good ventilation/exhaustion at the workplace.**Information about fire - and explosion protection:** No special measures required.**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**Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7775-27-1 sodium persulphate**

TLV (USA)	Long-term value: 0.1 mg/m ³ as persulfate
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Additional information: The lists valid during the making were used as basis.**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.

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.

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Trade name: Reagent TP1, Component 1

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*No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.**Nitrile rubber, NBR**Natural rubber, NR***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***Body protection:** *Protective work clothing**** SECTION 9: Physical and chemical properties****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.***Other information****Appearance:****Form:***Crystalline powder***Important information on protection of health and environment, and on safety.****Ignition temperature:***Not determined.***Explosive properties:***Product does not present an explosion hazard.**Not determined.***Solids content:***100.0 %***Molecular weight***238.09 g/mol***Change in condition****Evaporation rate***Not applicable.***Information with regard to physical hazard classes****Explosives***Void***Flammable gases***Void*

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Trade name: Reagent TP1, Component 1

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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	May intensify fire; oxidiser.
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity

Reactivity *No further relevant information available.*

Chemical stability

Thermal decomposition / conditions to be avoided:

*No decomposition if used according to specifications.*Possibility of hazardous reactions *No dangerous reactions known.*Conditions to avoid *No further relevant information available.*Incompatible materials: *No further relevant information available.*Hazardous decomposition products: *No dangerous decomposition products known.*

SECTION 11: Toxicological information

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.*

Information on other hazards

Endocrine disrupting properties

Substance is not 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.

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Trade name: Reagent TP1, Component 1

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Other adverse effects

Additional ecological information:

General notes:

*Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water**Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

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.

SECTION 14: Transport information

UN number or ID number

IMDG, IATA

UN1505

UN proper shipping name

ADR

UN1505 SODIUM PERSULPHATE

IMDG

SODIUM PERSULPHATE

IATA

Sodium persulphate

Transport hazard class(es)

ADR



Class

5.1 (O2) Oxidising substances.

Label

5.1

IMDG, IATA



Class

5.1 Oxidising substances.

Label

5.1

Packing group

ADR, IMDG, IATA

III

Environmental hazards:

Not applicable.

Special precautions for user

Warning: Oxidising substances.

Hazard identification number (Kemler code):

50

EMS Number:

F-A,S-Q

Stowage Category

A

Segregation Code

SG39 Stow "separated from" SGG2-ammonium compounds other than AMMONIUM PERSULPHATE (UN 1444).

SG49 Stow "separated from" SGG6-cyanides

Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)

5 kg

Transport category

3

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Trade name: Reagent TP1, Component 1

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Tunnel restriction code

E

IMDG

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

UN "Model Regulation":

UN 1505 SODIUM PERSULPHATE, 5.1, III

SECTION 15: Regulatory information

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

GHS label elements

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

Hazard pictograms



GHS03 GHS07 GHS08

Signal word *Danger*

Hazard-determining components of labelling:

sodium persulphate

Hazard statements

*May intensify fire; oxidiser.**Harmful if swallowed.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.*

Precautionary statements

*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Keep away from clothing and other combustible materials.**Avoid breathing dust/fume/gas/mist/vapours/spray.**[In case of inadequate ventilation] wear respiratory protection.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

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.

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)

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

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Safety data sheet

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IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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.**

— UAE —

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

Product identifier

Trade name: **Reagent TP2**

Synonym: *for total phosphate (A+B)*

Article number: 71251975C

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

Emergency telephone number: 00971 800 424 (from 7 am to 3 pm, from Sunday to Thursday)

SECTION 2: Hazards identification

Classification of the substance or mixture

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

Label elements

GHS label elements *Void*

Hazard pictograms *Void*

Signal word *Void*

Hazard statements *Void*

Other hazards

Results of PBT and vPvB assessment

PBT: *Not applicable.*

vPvB: *Not applicable.*

SECTION 3: Composition/information on ingredients

Mixtures

Description: *aqueous solution*

Dangerous components: *Void*

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: *No special measures required.*

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

After skin contact: *Generally the product does not irritate the skin.*

After eye contact: *Rinse opened eye for several minutes under running water.*

After swallowing: *If symptoms persist consult doctor.*

Most important symptoms and effects, both acute and delayed

No further relevant information available.

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Trade name: Reagent TP2

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

*** SECTION 5: Firefighting measures****Extinguishing media****Suitable extinguishing agents:** *Use fire extinguishing methods suitable to surrounding conditions.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *No further relevant information available.***Protective equipment:** *No special measures required.*

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures** *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).***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** *No special measures required.***Information about fire - and explosion protection:** *No special measures required.***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:** *12***Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection**Control parameters****Ingredients with limit values that require monitoring at the workplace:***The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.***Additional information:** *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see section 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. 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*

(Contd. on page 3)

Trade name: Reagent TP2

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*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** *Not required.***Body protection:** *Protective work clothing***SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****General Information**

Physical state	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Odourless</i>
Odour threshold:	<i>Not determined.</i>
Melting point/freezing point:	<i>Undetermined.</i>
Boiling point or initial boiling point and boiling range	<i>100 °C</i>
Flammability	<i>Not applicable.</i>
Lower and upper explosion limit	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
pH	<i>Not determined.</i>
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:	<i>23 hPa</i>
Density and/or relative density	
Density:	<i>Not determined.</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>

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:** *90.0 %***Solids content:** *0.0 %***Change in condition****Evaporation rate** *Not determined.***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>

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Trade name: Reagent TP2

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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

Reactivity No further relevant information available.**Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute toxicity** Based on available data, the classification criteria are not met.**Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure** Based on available data, the classification criteria are not met.**Aspiration hazard** Based on available data, the classification criteria are not met.**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.

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— UAE —

Trade name: Reagent TP2

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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****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****UN number or ID number****ADN, IMDG, IATA***Void***UN proper shipping name****ADR, ADN, IMDG, IATA***Void***Transport hazard class(es)****ADR, ADN, IMDG, IATA****Class***Void***Packing group****ADR, IMDG, IATA***Void***Environmental hazards:****Marine pollutant:***No***Special precautions for user***Not applicable.***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****Safety, health and environmental regulations/legislation specific for the substance or mixture****GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***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*

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Safety data sheet

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according to Regulation (EC) No 1907/2006, Article 31

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Trade name: Reagent TP2

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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)

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

UAE

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** Reagent TP3**Synonym:** *for total phosphate (A+B)***Article number:** 71251978C**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***Emergency telephone number:** 00971 800 424 (from 7 am to 3 pm, from Sunday to Thursday)**SECTION 2: Hazards 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.**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.***Additional information:***Product contains: Restricted explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 5 (1) and (3).*

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Trade name: Reagent TP3

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Other hazards**Results of PBT and vPvB assessment**PBT: *Not applicable.*vPvB: *Not applicable.**** SECTION 3: Composition/information on ingredients****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: $C \geq 15 \%$ Skin Irrit. 2; H315: $5 \% \leq C < 15 \%$ Eye Irrit. 2; H319: $5 \% \leq C < 15 \%$	20-40%
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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: Firefighting measures****Extinguishing media****Suitable extinguishing agents:** *Use fire extinguishing methods suitable to surrounding conditions.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture***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.**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.*

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Trade name: Reagent TP3

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*Dispose contaminated material as waste according to section 13.**Ensure adequate ventilation.***Reference to other sections***See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***SECTION 7: Handling and storage****Precautions for safe handling***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/personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7664-93-9 sulphuric acid**

PEL (USA)	Long-term value: 1 mg/m ³
REL (USA)	Long-term value: 1 mg/m ³
TLV (USA)	Long-term value: 0.2* mg/m ³ *as thoracic fraction, A2
IOELV (EU)	Long-term value: 0.05 mg/m ³
WEL (Great Britain)	Long-term value: 0.05* mg/m ³ *mist: defined as thoracic fraction

DNELs**CAS: 7664-93-9 sulphuric acid**

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

PNECs**CAS: 7664-93-9 sulphuric acid**

PNEC	8.8 mg/L (Wastewater treatment plant)
	0.25 mg/L (sea water)
PNEC	2.5 µg/L (fresh water)
PNEC	2 µg/kg (marine sediment)
	2 µg/kg (freshwater sediment)

Additional information: *The lists valid during the making were used as basis.***Exposure controls****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.*

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*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:***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.***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*

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Density and/or relative density

Density:

Not determined.

Relative density

Not determined.

Vapour density

Not determined.

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:

67.3 %

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

Reactivity No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

Oral LD50 5,800 mg/kg (mouse)

Skin corrosion/irritation Causes severe skin burns and eye damage.

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Trade name: Reagent TP3

(Contd. of page 5)

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**ADR**

UN2796 SULPHURIC ACID

IMDG

SULPHURIC ACID

IATA

Sulphuric acid

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

8 (C1) Corrosive substances.

(Contd. on page 7)

— UAE —

Trade name: Reagent TP3

(Contd. of page 6)

Label

8

IMDG, IATA



Class

8 Corrosive substances.

Label

8

Packing group

ADR, IMDG, IATA

II

Environmental hazards:

Not applicable.

Special precautions for user

Warning: Corrosive substances.

Hazard identification number (Kemler code):

80

EMS Number:

F-A,S-B

Segregation groups

(SGG1a) Strong acids

Stowage Category

B

Segregation Code

SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

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

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

GHS label elements

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

Hazard pictograms



GHS05

Signal word *Danger*

Hazard-determining components of labelling:

sulphuric acid

Hazard statements

Causes severe skin burns and eye damage.

Precautionary statements

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

Store locked up.

(Contd. on page 8)

UAE

Trade name: Reagent TP3

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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:

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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.**