

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)

1 Identification

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

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Endress+Hauser Conducta Inc.

4123 E. La Palma Ave., Suite 200

Anaheim

CA 92807-1813

USA

Information department:

Phone: +49 (0)7156 209-10117

E-Mail: MSDS.PCC@endress.com

Emergency telephone number: 001 18000 222 1222

2 Hazard(s) identification

Classification of the substance or mixture



GHS03 Flame over circle

Oxidizing Solids 2

H272 May intensify fire; oxidizer.



GHS08 Health hazard

Sensitization - Respiratory 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

Label elements

GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS03



GHS07



GHS08

Signal word *Danger*

Hazard-determining components of labeling:

sodium persulphate

(Contd. on page 2)

— USA —

Trade name: Reagent TP1, Component 1

(Contd. of page 1)

Hazard statements*May intensify fire; oxidizer.**Harmful if swallowed.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.***Precautionary statements***Keep away from heat.**Keep/Store away from clothing/combustible materials.**Take any precaution to avoid mixing with combustibles.**[In case of inadequate ventilation] wear respiratory protection.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Classification system:****NFPA ratings (scale 0 - 4)**

Health = 1

Fire = 3

Reactivity = 0

*The substance possesses oxidizing properties.***HMIS-ratings (scale 0 - 4)**

Health = *1

Fire = 3

Reactivity = 0

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.**** 3 Composition/information on ingredients****Chemical characterization: Substances****CAS No. Description**

CAS: 7775-27-1 sodium persulphate

Identification number(s)

EC number: 231-892-1

4 First-aid measures**Description of first aid measures****General information:***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:** *Immediately call a doctor.*

(Contd. on page 3)

Trade name: Reagent TP1, Component 1

(Contd. of page 2)

Information for doctor:**Most important symptoms and effects, both acute and delayed***No further relevant information available.***Indication of any immediate medical attention and special treatment needed***No further relevant information available.***5 Fire-fighting measures****Extinguishing media****Suitable extinguishing agents:***CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *No further relevant information available.***Protective equipment:** *No special measures required.***6 Accidental release measures****Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.***Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:***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.***Protective Action Criteria for Chemicals****PAC-1:***0.3 mg/m³***PAC-2:***8.2 mg/m³***PAC-3:***49 mg/m³***7 Handling and storage****Precautions for safe handling** *Ensure good ventilation/exhaustion at the workplace.***Information about protection against explosions and fires:** *No special measures required.***Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *None.***Storage class:** *5.1 B***Specific end use(s)** *No further relevant information available.***8 Exposure controls/personal protection****Additional information about design of technical systems:** *No further data; see section 7.*

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— USA —

Trade name: Reagent TP1, Component 1

(Contd. of page 3)

Control parameters

Components with limit values that require monitoring at the workplace:

CAS: 7775-27-1 sodium persulphate

TLV	Long-term value: 0.1 mg/m ³ as persulfate
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Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

Only use chemical-protective gloves with CE-labeling of category III.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

No chemical-protective gloves required.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Nitrile rubber, NBR

Natural rubber, NR

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

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Crystalline powder

Color: Colorless

Odor: Odorless

Odor threshold: Not determined.

pH-value: Slightly acidic

Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

Flash point: Not applicable.

Flammability: Product is not flammable.

Decomposition temperature: Not determined.

(Contd. on page 5)

— USA —

Trade name: Reagent TP1, Component 1

(Contd. of page 4)

Ignition temperature:	Not determined.
Danger of explosion:	Product does not present an explosion hazard. Not determined.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.
Density at 20 °C (68 °F):	1.1 g/cm ³ (9.18 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Easily soluble.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Solids content:	100.0 %
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

CAS: 7775-27-1 sodium persulphate

Oral LD50 920 mg/kg (rat)

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

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Trade name: Reagent TP1, Component 1

(Contd. of page 5)

Mobility in soil *No further relevant information available.***Additional ecological information:****General notes:***Water hazard class 1 (Assessment by list): slightly hazardous for water**Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Other adverse effects** *No further relevant information available.***13 Disposal considerations****Waste treatment methods****Recommendation:***Must not be disposed of together with household garbage. Do not allow product to reach sewage system.***Uncleaned packagings:****Recommendation:** *Disposal must be made according to official regulations.***14 Transport information****UN-Number****DOT, IMDG, IATA**

UN1505

UN proper shipping name**DOT, IMDG**

SODIUM PERSULPHATE

IATA

Sodium persulphate

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

5.1 Oxidizing substances

Label

5.1

IMDG, IATA**Class**

5.1 Oxidizing substances

Label

5.1

Packing group**DOT, IMDG, IATA**

III

Environmental hazards:*Not applicable.***Special precautions for user***Warning: Oxidizing 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***Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code***Not applicable.*

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Trade name: Reagent TP1, Component 1

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Transport/Additional information:

DOT

Quantity limitations

On passenger aircraft/rail: 25 kg

On cargo aircraft only: 100 kg

IMDG

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

UN "Model Regulation":

UN 1505 SODIUM PERSULPHATE, 5.1, III

15 Regulatory information

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

Section 355 (extremely hazardous substances):

Substance is not listed.

Section 313 (Specific toxic chemical listings):

Substance is not listed.

TSCA (Toxic Substances Control Act):

ACTIVE

Hazardous Air Pollutants

Substance is not listed.

Proposition 65

Chemicals known to cause cancer:

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

Chemicals known to cause developmental toxicity:

Substance is not listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

Substance is not listed.

TLV (Threshold Limit Value)

Substance is not listed.

MAK (German Maximum Workplace Concentration)

Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS03 GHS07 GHS08

(Contd. on page 8)

— USA —

Trade name: Reagent TP1, Component 1

(Contd. of page 7)

Signal word *Danger***Hazard-determining components of labeling:***sodium persulphate***Hazard statements***May intensify fire; oxidizer.**Harmful if swallowed.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.***Precautionary statements***Keep away from heat.**Keep/Store away from clothing/combustible materials.**Take any precaution to avoid mixing with combustibles.**[In case of inadequate ventilation] wear respiratory protection.**Dispose of contents/container in accordance with local/regional/national/international regulations.***National regulations:****Water hazard class:** *Water hazard class 1 (Assessment by list): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***16 Other information**

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

Department issuing SDS: *PCC - TWR***Contact:** *MSDS.pcc@endress.com***Date of preparation / last revision** *09/20/2024 / 6***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**DOT: US Department of Transportation**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Oxidizing Solids 2: Oxidizing solids – Category 2**Acute Toxicity - Oral 4: Acute toxicity – Category 4**Sensitization - Respiratory 1: Respiratory sensitisation – Category 1**Sensitization - Skin 1: Skin sensitisation – Category 1**** Data compared to the previous version altered.**

1 Identification

Product identifier

Trade name: **Reagent TP2**

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

Article number: 71251975C

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Endress+Hauser Conducta Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:

Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: 001 18000 222 1222

2 Hazard(s) identification

Classification of the substance or mixture

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

Label elements

GHS label elements *Void*

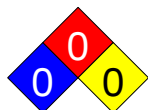
Hazard pictograms *Void*

Signal word *Void*

Hazard statements *Void*

Classification system:

NFPA ratings (scale 0 - 4)



Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 0

Fire = 0

Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: *Not applicable.*

vPvB: *Not applicable.*

3 Composition/information on ingredients

Chemical characterization: **Mixtures**

Description: *aqueous solution*

Dangerous components: *Void*

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

(Contd. on page 2)

— USA —

Trade name: Reagent TP2

(Contd. of page 1)

4 First-aid measures

Description of first aid measures

General information: No special measures required.

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

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

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

After swallowing: If symptoms persist consult doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

* 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

For safety reasons unsuitable extinguishing agents: no further information

Special hazards arising from the substance or mixture No further relevant information available.

Advice for firefighters No further relevant information available.

Protective equipment: No special measures required.

6 Accidental release measures

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

Environmental precautions:

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.

Protective Action Criteria for Chemicals

PAC-1:

None of the ingredients is listed.

PAC-2:

None of the ingredients is listed.

PAC-3:

None of the ingredients is listed.

7 Handling and storage

Precautions for safe handling No special measures required.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None.

(Contd. on page 3)

— USA —

Trade name: Reagent TP2

(Contd. of page 2)

Storage class: 12**Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

Additional information about design of technical systems: *No further data; see section 7.***Control parameters****Components 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 that were valid during the creation were used as basis.***Exposure controls****Personal protective equipment:****General protective and hygienic measures:***The usual precautionary measures for handling chemicals should be followed.***Breathing equipment:** *Not required.***Protection of hands:** *No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. 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.***Eye protection:** *Not required.***Body protection:** *Protective work clothing*

9 Physical and chemical properties

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

Form:	<i>Fluid</i>
Color:	<i>Colorless</i>
Odor:	<i>Odorless</i>
Odor threshold:	<i>Not determined.</i>
pH-value:	<i>Not determined.</i>

Change in condition

Melting point/Melting range:	<i>Undetermined.</i>
Boiling point/Boiling range:	<i>100 °C (212 °F)</i>

Flash point: *Not applicable.***Flammability:** *Not applicable.***Ignition temperature:** *Product is not selfigniting.***Danger of explosion:** *Product does not present an explosion hazard.
Not determined.***Explosion limits:**

Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>

(Contd. on page 4)

Trade name: Reagent TP2

(Contd. of page 3)

Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Water:	90.0 %
Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (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.

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Trade name: Reagent TP2

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Results of PBT and vPvB assessment

PBT: *Not applicable.*

vPvB: *Not applicable.*

Other adverse effects *No further relevant information available.*

13 Disposal considerations

Waste treatment methods

Recommendation: *Smaller quantities can be disposed of with household waste.*

Uncleaned packagings:

Recommendation: *Disposal must be made according to official regulations.*

Recommended cleansing agent: *Water, if necessary with cleansing agents.*

*14 Transport information

UN-Number

DOT, ADN, IMDG, IATA *Void*

UN proper shipping name

DOT, ADN, IMDG, IATA *Void*

Transport hazard class(es)

DOT, ADN, IMDG, IATA

Class *Void*

Packing group

DOT, IMDG, IATA *Void*

Environmental hazards:

Marine pollutant: *No*

Special precautions for user *Not applicable.*

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code *Not applicable.*

Transport/Additional information: *Not dangerous according to the above specifications.*

UN "Model Regulation": *Void*

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

Hazardous Air Pollutants

None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

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— USA —

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Trade name: Reagent TP2

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Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value)

None of the ingredients is listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements *Void*

Hazard pictograms *Void*

Signal word *Void*

Hazard statements *Void*

National regulations:

Water hazard class: *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16 Other information

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

Department issuing SDS: PCC - TWR

Contact: MSDS.pcc@endress.com

Date of preparation / last revision 09/20/2024 / 4

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

DOT: US Department of Transportation

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

— USA —

1 Identification

Product identifier

Trade name: **Reagent TP3**

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

Article number: 71251978C

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Endress+Hauser Conducta Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:

Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: 001 18000 222 1222

2 Hazard(s) identification

Classification of the substance or mixture



GHS05 Corrosion

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

Eye Damage 1 H318 Causes serious eye damage.

Label elements

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS05

Signal word *Danger*

Hazard-determining components of labeling:

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/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.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 3

Fire = 0

Reactivity = 0

Trade name: Reagent TP3

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

* 3 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

CAS: 7664-93-9	sulphuric acid	 Skin Corrosion 1A, H314	20-40%
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Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

Description of first aid measures

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

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

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

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

After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

For safety reasons unsuitable extinguishing agents: no further information

Special hazards arising from the substance or mixture

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

Advice for firefighters No further relevant information available.

Protective equipment: Mount respiratory protective device.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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Trade name: Reagent TP3

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Methods and material for containment and cleaning up:*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).**Use neutralizing agent.**Dispose contaminated material as waste according to section 13.**Ensure adequate ventilation.***Reference to other sections***See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***Protective Action Criteria for Chemicals**

PAC-1:		
CAS: 7664-93-9	sulphuric acid	0.20 mg/m ³
PAC-2:		
CAS: 7664-93-9	sulphuric acid	8.7 mg/m ³
PAC-3:		
CAS: 7664-93-9	sulphuric acid	160 mg/m ³

7 Handling and storage**Precautions for safe handling***Ensure good ventilation/exhaustion at the workplace.**Prevent formation of aerosols.***Information about protection against explosions and fires:***Keep respiratory protective device available.***Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *Keep receptacle tightly sealed.***Storage class:** 8 B**Specific end use(s)** *No further relevant information available.***8 Exposure controls/personal protection****Additional information about design of technical systems:** *No further data; see section 7.***Control parameters**

Components with limit values that require monitoring at the workplace:	
CAS: 7664-93-9 sulphuric acid	
PEL	Long-term value: 1 mg/m ³
REL	Long-term value: 1 mg/m ³
TLV	Long-term value: 0.2* mg/m ³
	*as thoracic fraction, A2

Additional information: *The lists that were valid during the creation were used as basis.***Exposure controls****Personal protective equipment:****General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing.**Wash hands before breaks and at the end of work.**Avoid contact with the eyes.**Avoid contact with the eyes and skin.*

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Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:*Protective gloves*

To avoid skin problems reduce the wearing of gloves to the required minimum.

Only use chemical-protective gloves with CE-labeling 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.

Eye protection:*Tightly sealed goggles*

Body protection: *Protective work clothing*

9 Physical and chemical properties

Information on basic physical and chemical properties**General Information****Appearance:****Form:***Fluid***Color:***Colorless***Odor:***Odorless***Odor threshold:***Not determined.***pH-value at 20 °C (68 °F):***<1***Change in condition****Melting point/Melting range:***Undetermined.***Boiling point/Boiling range:***>100 °C (>212 °F)***Flash point:***Not applicable.***Flammability:***Not applicable.***Ignition temperature:***Product is not selfigniting.***Danger of explosion:***Product does not present an explosion hazard.
Not determined.***Explosion limits:****Lower:***Not determined.***Upper:***Not determined.***Vapor pressure at 20 °C (68 °F):***23 hPa (17.3 mm Hg)*

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Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Water:	67.3 %
Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

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

Primary irritant effect:

on the skin: Strong caustic effect on skin and mucous membranes.

on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

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

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.

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(Contd. of page 5)

Additional ecological information:

General notes:

Water hazard class 1 (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 bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

*14 Transport information

UN-Number

DOT, IMDG, IATA

UN2796

UN proper shipping name

DOT, IMDG

SULPHURIC ACID

IATA

Sulphuric acid

Transport hazard class(es)

DOT



Class

8 Corrosive substances

Label

8

IMDG, IATA



Class

8 Corrosive substances

Label

8

Packing group

DOT, 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

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Safety Data Sheet

acc. to OSHA HCS

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Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

DOT

Quantity limitations

On passenger aircraft/rail: 1 L

On cargo aircraft only: 30 L

IMDG

Limited quantities (LQ)

1L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN 2796 SULPHURIC ACID, 8, II

15 Regulatory information

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

Section 355 (extremely hazardous substances):

CAS: 7664-93-9 sulphuric acid

Section 313 (Specific toxic chemical listings):

CAS: 7664-93-9 sulphuric acid

CAS: 6535-15-5 antimony(3+) potassium [R-(R*,R*)]-monotartrate

TSCA (Toxic Substances Control Act):

CAS: 7732-18-5 water

ACTIVE

CAS: 7664-93-9 sulphuric acid

ACTIVE

Hazardous Air Pollutants

CAS: 6535-15-5 antimony(3+) potassium [R-(R*,R*)]-monotartrate

Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value)

CAS: 7664-93-9 sulphuric acid

A2

MAK (German Maximum Workplace Concentration)

CAS: 7664-93-9 sulphuric acid

4

CAS: 6535-15-5 antimony(3+) potassium [R-(R*,R*)]-monotartrate

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NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

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Hazard pictograms



GHS05

Signal word *Danger*

Hazard-determining components of labeling:

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/shower.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Immediately call a poison center/doctor.**Specific treatment (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

National regulations:

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

16 Other information

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

Department issuing SDS: *PCC - TWR***Contact:** *MSDS.pcc@endress.com***Date of preparation / last revision** *09/20/2024 / 6*

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**DOT: US Department of Transportation**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)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Skin Corrosion 1A: Skin corrosion/irritation – Category 1A**Eye Damage 1: Serious eye damage/eye irritation – Category 1**** Data compared to the previous version altered.**