

20.09.2024

Kit Components

Product code	Description
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CAY440-VxxAAE	CA71COD-A Reagent Set
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Components:

71251118	Reagent COD1 (A+B)
71251179	Reagent COD2 (A)
71251190A	Reagent COD3 (A+B)

SECTION 1: Identification of the substance or mixture and of the supplier**1.1 Product identifier**Trade name: **Reagent COD1 (A+B)**

Article number: 71251118

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



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.

2.3 Other hazards

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

Trade name: Reagent COD1 (A+B)

(Contd. of page 1)

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/Information on ingredients

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 7664-93-9	sulphuric acid	 Skin corrosion Category 1A, H314	60-80%
EINECS: 231-639-5			

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.

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.

(Contd. on page 3)

Trade name: Reagent COD1 (A+B)

(Contd. of page 2)

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**

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

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**DNELs****CAS: 7664-93-9 sulphuric acid**Inhalative DNEL short-term 0.1 mg/m³ (worker) (local effects)DNEL long-term 0.05 mg/m³ (worker) (local effects)**PNECs****CAS: 7664-93-9 sulphuric acid**

PNEC 8.8 mg/L (Wastewater treatment plant)

0.25 mg/L (sea water)

PNEC 2.5 µg/L (fresh water)

PNEC 2 µg/kg (marine sediment)

2 µg/kg (freshwater sediment)

Additional information: The lists valid during the making were used as basis.**8.2 Exposure controls****Appropriate engineering controls** No further data; see 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.

(Contd. on page 4)

Trade name: Reagent COD1 (A+B)

(Contd. of page 3)

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***Fluid***Colour:***Colourless***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.***Decomposition temperature:***Not determined.***pH at 20 °C***<1***Viscosity:****Kinematic viscosity***Not determined.***Dynamic:***Not determined.***Solubility****water:***Fully miscible.*

Partition coefficient n-octanol/water (log value) *Not determined.*

Vapour pressure at 20 °C:*23 hPa***Density and/or relative density****Density at 20 °C:***1.521 g/cm³***Relative density***Not determined.***Vapour density***Not determined.***Particle characteristics***Not applicable.*

(Contd. on page 5)

Trade name: Reagent COD1 (A+B)

(Contd. of page 4)

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:** 25.0 %**Solids content:** 0.0 %**Change in condition****Evaporation rate** Not determined.**Information with regard to physical hazard classes****Explosives** Void**Flammable gases** Void**Aerosols** Void**Oxidising gases** Void**Gases under pressure** Void**Flammable liquids** Void**Flammable solids** Void**Self-reactive substances and mixtures** Void**Pyrophoric liquids** Void**Pyrophoric solids** Void**Self-heating substances and mixtures** Void**Substances and mixtures, which emit flammable gases in contact with water** Void**Oxidising liquids** Void**Oxidising solids** Void**Organic peroxides** Void**Corrosive to metals** Void**Desensitised explosives** Void**SECTION 10: Stability and reactivity****10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.**10.4 Conditions to avoid** No further relevant information available.**10.5 Incompatible materials:** No further relevant information available.**10.6 Hazardous decomposition products:** No dangerous decomposition products known.**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Based on available data, the classification criteria are not met.**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.

(Contd. on page 6)

Trade name: Reagent COD1 (A+B)

(Contd. of page 5)

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

UN1830

14.2 UN proper shipping name

NZS

UN1830 SULPHURIC ACID

IMDG

SULPHURIC ACID

IATA

Sulphuric acid

14.3 Transport hazard class(es)

NZS



Class

8 (C1) Corrosive substances.

Label

8

IMDG, IATA



Class

8 Corrosive substances.

Label

8

(Contd. on page 7)

Trade name: Reagent COD1 (A+B)

(Contd. of page 6)

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

C

Stowage Code

SW15 For metal drums, 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 1830 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.

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.

(Contd. on page 8)

Trade name: Reagent COD1 (A+B)

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. of page 7)

Directive 2012/18/EU**Named dangerous substances - ANNEX I** *None of the ingredients is listed.***National regulations:****Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***15.2 Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information**

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

16.1 Relevant phrases*H314 Causes severe skin burns and eye damage.***16.3 Recommended restriction of use****Department issuing SDS:** PCC-TWR**Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)**ICAO: International Civil Aviation Organisation**ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)**ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**DNEL: Derived No-Effect Level (REACH)**PNEC: Predicted No-Effect Concentration (REACH)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Skin corrosion Category 1A: Skin corrosion/irritation – Category 1A**Serious eye damage Category 1: Serious eye damage/eye irritation – Category 1**** Data compared to the previous version altered.**

SECTION 1: Identification of the substance or mixture and of the supplier**1.1 Product identifier**Trade name: **Reagent COD2 (A)**

Article number: 71251179

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



corrosion

Skin corrosion Category 1A

H314 Causes severe skin burns and eye damage.

Serious eye damage Category 1

H318 Causes serious eye damage.



environment

Hazardous to the aquatic environment acute Category H400 Very toxic to aquatic life.

1

Hazardous to the aquatic environment chronic
Category 2

H411 Toxic to aquatic life with long lasting effects.

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 GHS09

Signal word *Danger***Hazard-determining components of labelling:**

sulphuric acid

Hazard statements

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

(Contd. on page 2)

— NZ —

Trade name: Reagent COD2 (A)

(Contd. of page 1)

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.

2.3 Other hazards

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

*** SECTION 3: Composition/Information on ingredients****3.2 Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 7664-93-9	sulphuric acid	10-20%
EINECS: 231-639-5	⚠ Skin corrosion Category 1A, H314	
CAS: 10294-26-5	silver sulfate	0.1-1%
EINECS: 233-653-7	⚠ Serious eye damage Category 1, H318; ⚠ Hazardous to the aquatic environment acute Category 1, H400 (M=1000); Hazardous to the aquatic environment chronic Category 1, H410 (M=100)	

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.

(Contd. on page 3)

Trade name: Reagent COD2 (A)

(Contd. of page 2)

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.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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**

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

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 acidWES (New Zealand) Long-term value: 0.1 mg/m³
confirmed carcinogenIOELV (EU) Long-term value: 0.05 mg/m³**DNELs****CAS: 7664-93-9 sulphuric acid**Inhalative DNEL short-term 0.1 mg/m³ (worker) (local effects)DNEL long-term 0.05 mg/m³ (worker) (local effects)**PNECs****CAS: 7664-93-9 sulphuric acid**

PNEC 8.8 mg/L (Wastewater treatment plant)

0.25 mg/L (sea water)

(Contd. on page 4)

Trade name: Reagent COD2 (A)

(Contd. of page 3)

PNEC	2.5 µg/L (fresh water)
PNEC	2 µg/kg (marine sediment)
	2 µg/kg (freshwater sediment)

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

8.2 Exposure controls

Appropriate engineering controls No further data; see 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

Fluid

Colour:

Light yellow

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.

(Contd. on page 5)

Trade name: Reagent COD2 (A)

(Contd. of page 4)

Lower and upper explosion limit

Lower: *Not determined.*Upper: *Not determined.*Flash point: *Not applicable.*Decomposition temperature: *Not determined.*pH at 20 °C *<1*

Viscosity:

Kinematic viscosity *Not determined.*Dynamic: *Not determined.*

Solubility

water: *Fully miscible.*Partition coefficient n-octanol/water (log value) *Not determined.*Vapour pressure at 20 °C: *23 hPa*

Density and/or relative density

Density at 20 °C: *1.102 g/cm³*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: *79.8 %*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.*

(Contd. on page 6)

Trade name: Reagent COD2 (A)

(Contd. of page 5)

10.2 Chemical stability**Thermal decomposition / conditions to be avoided:***No decomposition if used according to specifications.***10.3 Possibility of hazardous reactions** *No dangerous reactions known.***10.4 Conditions to avoid** *No further relevant information available.***10.5 Incompatible materials:** *No further relevant information available.***10.6 Hazardous decomposition products:** *No dangerous decomposition products known.***SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** *Based on available data, the classification criteria are not met.***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****Remark:***Very toxic for fish**Toxic for fish***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.**Also poisonous for fish and plankton in water bodies.**Very toxic for aquatic organisms**Toxic for aquatic organisms**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.*

(Contd. on page 7)

Trade name: Reagent COD2 (A)

(Contd. of page 6)

* 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

14.3 Transport hazard class(es)

NZS



Class

8 (C1) Corrosive substances.

Label

8

IMDG, IATA



Class

8 Corrosive substances.

Label

8

14.4 Packing group

NZS, IMDG, IATA

II

14.5 Environmental hazards:

Marine pollutant:

Yes

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.

(Contd. on page 8)

Trade name: Reagent COD2 (A)

(Contd. of page 7)

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

GHS05 GHS09

Signal word *Danger***Hazard-determining components of labelling:***sulphuric acid***Hazard statements***H314 Causes severe skin burns and eye damage.**H400 Very toxic to aquatic life.**H411 Toxic to aquatic life with long lasting effects.***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***H314 Causes severe skin burns and eye damage.**H318 Causes serious eye damage.**H400 Very toxic to aquatic life.**H410 Very toxic to aquatic life with long lasting effects.***16.3 Recommended restriction of use****Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)**ICAO: International Civil Aviation Organisation**ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)**ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**DNEL: Derived No-Effect Level (REACH)**PNEC: Predicted No-Effect Concentration (REACH)*

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Trade name: Reagent COD2 (A)

(Contd. of page 8)

*PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Skin corrosion Category 1A: Skin corrosion/irritation – Category 1A**Serious eye damage Category 1: Serious eye damage/eye irritation – Category 1**Hazardous to the aquatic environment acute Category 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Hazardous to the aquatic environment chronic Category 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1**Hazardous to the aquatic environment chronic Category 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2**** Data compared to the previous version altered.**

NZ —

SECTION 1: Identification of the substance or mixture and of the supplier**1.1 Product identifier**Trade name: **Reagent COD3 (A+B)**

Article number: 71251190A

CAS Number:

57-50-1

EC number:

200-334-9

1.2 Relevant identified uses of the substance or mixture and uses advised against*No further relevant information available.*Application of the substance / the mixture *Laboratory chemicals***1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier:

Endress+Hauser

Conducta GmbH+Co. KG

Dieselstraße 24

D-70839 Gerlingen

Further information obtainable from:

Phone: +49 (0)7156 209-10117

E-Mail: MSDS.PCC@endress.com

1.4 Emergency telephone number: 0064 800 764 766*** SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

*The substance is not classified, according to the CLP regulation.***2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 *Void*Hazard pictograms *Void*Signal word *Void*Hazard statements *Void***2.3 Other hazards***The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***SECTION 3: Composition/Information on ingredients****3.1 Substances**

CAS No. Description

CAS: 57-50-1 *sucrose*

Identification number(s)

EC number: 200-334-9

SECTION 4: First aid measures**4.1 Description of first aid measures****General information:** *No special measures required.***After inhalation:** *Supply fresh air; consult doctor in case of complaints.***After skin contact:** *Generally the product does not irritate the skin.*

(Contd. on page 2)

— NZ —

Trade name: Reagent COD3 (A+B)

(Contd. of page 1)

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

After swallowing: *If symptoms persist consult doctor.*

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: 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 *No further relevant information available.***5.3 Advice for firefighters** *No further relevant information available.*

Protective equipment: *No special measures required.*

*** SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.***6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.***6.3 Methods and material for containment and cleaning up:** *Pick up mechanically.***6.4 Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

No special measures required.

Information about fire - and explosion protection: *No special measures required.*

7.2 Conditions for safe storage, including any incompatibilities**Storage:**

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

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

Further information about storage conditions: *None.*

Storage class: *11*

7.3 Specific end use(s) *No further relevant information available.***SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

Ingredients with limit values that require monitoring at the workplace:

CAS: 57-50-1 sucrose

WES (New Zealand) Long-term value: 10 mg/m³

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.*

(Contd. on page 3)

— NZ —

Trade name: Reagent COD3 (A+B)

(Contd. of page 2)

Individual protection measures, such as personal protective equipment**General protective and hygienic measures:***The usual precautionary measures are to be adhered to when handling chemicals.***Respiratory protection:** *Not required.***Hand protection** *No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.***Penetration time of glove material***The exact break 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****9.1 Information on basic physical and chemical properties****General Information**

Physical state	<i>Solid</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>Undetermined.</i>
Flammability	<i>Product is not flammable.</i>
Lower and upper explosion limit	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
Decomposition temperature:	<i>Not determined.</i>
pH	<i>Not applicable.</i>
Viscosity:	
Kinematic viscosity	<i>Not applicable.</i>
Dynamic:	<i>Not applicable.</i>
Solubility	
water:	<i>Soluble.</i>
Partition coefficient n-octanol/water (log value)	<i>Not determined.</i>
Vapour pressure:	<i>Not applicable.</i>
Density and/or relative density	
Density at 20 °C:	<i>0.94 g/cm³</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not applicable.</i>
Particle characteristics	<i>Not determined.</i>

9.2 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.***Molecular weight***342.3 g/mol*

(Contd. on page 4)

Trade name: Reagent COD3 (A+B)

(Contd. of page 3)

Change in condition

Evaporation rate

Not applicable.

Information with regard to physical hazard classes

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity

10.1 Reactivity *No further relevant information available.*

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

*No decomposition if used according to specifications.*10.3 Possibility of hazardous reactions *No dangerous reactions known.*10.4 Conditions to avoid *No further relevant information available.*10.5 Incompatible materials: *No further relevant information available.*10.6 Hazardous decomposition products: *No dangerous decomposition products known.*

SECTION 11: Toxicological information

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

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

LD/LC50 values relevant for classification:

CAS: 57-50-1 sucrose

Oral LD50 29,700 mg/kg (rat)

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.*

11.2 Information on other hazards

Endocrine disrupting properties

Substance is not listed.

(Contd. on page 5)

Trade name: Reagent COD3 (A+B)

(Contd. of page 4)

* **SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:** No further relevant information available.**12.2 Persistence and degradability** No further relevant information available.**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

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

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Recommendation** Smaller quantities can be disposed of with household waste.**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.**SECTION 14: Transport information****14.1 UN number or ID number**

ADN, IMDG, IATA

Void

14.2 UN proper shipping name

NZS, ADN, IMDG, IATA

Void

14.3 Transport hazard class(es)

NZS, ADN, IMDG, IATA

Class

Void

14.4 Packing group

NZS, IMDG, IATA

Void

14.5 Environmental hazards:**Marine pollutant:**

No

14.6 Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:

Not dangerous according to the above specifications.

UN "Model Regulation":

Void

* **SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****New Zealand Inventory of Chemicals**

Substance is listed.

HSNO Approval numbers

Substance is not listed.

Labelling according to Regulation (EC) No 1272/2008 Void

(Contd. on page 6)

— NZ —

Trade name: Reagent COD3 (A+B)

(Contd. of page 5)

Hazard pictograms *Void***Signal word** *Void***Hazard statements** *Void***Directive 2012/18/EU****Named dangerous substances - ANNEX I** *Substance is not listed.***National regulations:****Waterhazard class:** *Water hazard class 1 (Assessment by list): slightly hazardous for water.***15.2 Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information**

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

16.3 Recommended restriction of use**Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:**

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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