

**Kit Components**

Product code	Description
<b>CAY850-VxxAAH</b>	<b>CA7xCU Reagent Set for copper</b>

## Components:

51508334	Reagent CU1 for copper
51512533	Reagent CU2, Component 1 for copper
51512534	Reagent CU2, Component 2 for copper

## SECTION 1: Identification

### Other means of identification

**Trade name:** Reagent CU1

**Synonym:** *for copper*

**Article number:** 51508334

### Relevant identified uses of the substance or mixture and uses advised against

*No further relevant information available.*

**Application of the substance / the mixture** *Laboratory chemicals*

### Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

*Endress+Hauser  
Conducta GmbH+Co. KG  
Dieselstraße 24  
D-70839 Gerlingen*

#### Further information obtainable from:

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

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

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

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

## SECTION 2: Hazard(s) Identification

### Classification of the substance or mixture



*corrosion*

*Skin corrosion/irritation – Category 1B H314 Causes severe skin burns and eye damage.*

*Eye damage/irritation – Category 1 H318 Causes serious eye damage.*

### Label elements

#### GHS label elements

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

#### Hazard pictograms



GHS05

**Signal word** *Danger*

#### Hazard-determining components of labelling:

*ammonia (2-6 %)*

#### Hazard statements

*Causes severe skin burns and eye damage.*

#### Precautionary statements

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

(Contd. on page 2)

**Trade name: Reagent CU1**

(Contd. of page 1)

*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.*

**Other hazards**

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

**Results of PBT and vPvB assessment**

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

**SECTION 3: Composition and Information on Ingredients**

**Mixtures**

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

**Dangerous components:**

CAS: 3012-65-5 EINECS: 221-146-3	diammonium hydrogen 2-hydroxypropane-1,2,3-tricarboxylate ⚠ Eye damage/irritation – Category 2A, H319	20-40%
CAS: 1336-21-6 EINECS: 215-647-6	ammonia ⚠ Skin corrosion/irritation – Category 1B, H314	2-6%

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

**SECTION 4: First Aid Measures**

**Description of first aid measures**

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

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

**After skin contact:**

*Immediately wash with water and soap and rinse thoroughly.*

*Immediately rinse with water.*

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

**After swallowing:** *Drink plenty of water and provide fresh air. Call for a doctor immediately.*

**Most important symptoms and effects, both acute and delayed**

*No further relevant information available.*

**Indication of any immediate medical attention and special treatment needed**

*No further relevant information available.*

**SECTION 5: Fire Fighting Measures**

**Extinguishing media**

**Suitable extinguishing agents:**

*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*

**For safety reasons unsuitable extinguishing agents:** *no further information*

**Special hazards arising from the substance or mixture**

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

**Advice for firefighters** *No further relevant information available.*

**Protective equipment:** *Mount respiratory protective device.*

**SECTION 6: Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures**

*Mount respiratory protective device.*

(Contd. on page 3)

**Trade name: Reagent CU1**

(Contd. of page 2)

*Wear protective equipment. Keep unprotected persons away.*

*Wear protective clothing.*

**Environmental precautions:**

*Dilute with plenty of water.*

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

**Methods and material for containment and cleaning up:**

*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*

*Use neutralising agent.*

*Dispose contaminated material as waste according to section 13.*

*Ensure adequate ventilation.*

**Reference to other sections**

*See Section 7 for information on safe handling.*

*See Section 8 for information on personal protection equipment.*

*See Section 13 for disposal information.*

**SECTION 7: Handling and Storage****Precautions for safe handling**

*Keep away from heat and direct sunlight.*

*Ensure good ventilation/exhaustion at the workplace.*

*Prevent formation of aerosols.*

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

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

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

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

**Further information about storage conditions:** *Keep container tightly sealed.*

**Storage class:** *8 B*

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

**SECTION 8: Exposure controls and personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:**

*The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*

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

**Exposure controls**

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

**Individual protection measures, such as personal protective equipment****General protective and hygienic measures:**

*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.*

(Contd. on page 4)

**Trade name: Reagent CU1**

(Contd. of page 3)

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

Natural rubber, NR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

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

**Eyeface protection**

Tightly sealed goggles

**Body protection:** Protective work clothing

**SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties****General Information****Physical state**

Fluid

**Colour:**

Colourless

**Odour:**

Ammonia-like

**Odour threshold:**

Not determined.

**Melting point/freezing point:**

Undetermined.

**Boiling point or initial boiling point and boiling range**

>100 °C

**Flammability**

Not applicable.

**Lower and upper explosion limit****Lower:**

Not determined.

**Upper:**

Not determined.

**Flash point:**

Not applicable.

**Decomposition temperature:**

Not determined.

**pH**

Alkaline

**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:**

0.871 g/cm<sup>3</sup>

**Relative density**

Not determined.

**Vapour density**

Not determined.

**Particle characteristics**

Not applicable.

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

Fluid

(Contd. on page 5)

**Trade name: Reagent CU1**

(Contd. of page 4)

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

<b>Ignition temperature:</b>	<i>Product is not selfigniting.</i>
<b>Explosive properties:</b>	<i>Product does not present an explosion hazard. Not determined.</i>
<b>Solvent content:</b>	
<b>Water:</b>	59.0 %
<b>Solids content:</b>	0.0 %
<b>Change in condition</b>	
<b>Evaporation rate</b>	<i>Not determined.</i>

**Information with regard to physical hazard classes**

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

**SECTION 10: Stability and Reactivity**

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

**SECTION 11: Toxicological Information**

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

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

**Information on other hazards**

**Endocrine disrupting properties**

*None of the ingredients is listed.*

**SECTION 12: Ecological Information**

**Toxicity**

**Aquatic toxicity:** *No further relevant information available.*

(Contd. on page 6)

**Trade name: Reagent CU1**

(Contd. of page 5)

**Persistence and degradability** *No further relevant information available.***Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Endocrine disrupting properties***The product does not contain substances with endocrine disrupting properties.***Other adverse effects****Additional ecological information:****General notes:***Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water**Do not allow product to reach ground water, water course or sewage system.**Must not reach sewage water or drainage ditch undiluted or unneutralised.**Danger to drinking water if even small quantities leak into the ground.***SECTION 13: Disposal considerations****Waste treatment methods****Recommendation***Must not be disposed together with household garbage. Do not allow product to reach sewage system.***Uncleaned packaging:****Recommendation:** *Disposal must be made according to official regulations.***Recommended cleansing agents:** *Water, if necessary together with cleansing agents.***SECTION 14: Transport information****UN number or ID number****ADN, IMDG, IATA** *Void***UN proper shipping name****ADG, ADN, IMDG, IATA** *Void***Transport hazard class(es)****ADG, ADN, IMDG, IATA****Class** *Void***Packing group****ADG, IMDG, IATA** *Void***Environmental hazards:** *Not applicable.***Special precautions for user** *Not applicable.***Maritime transport in bulk according to IMO instruments** *Not applicable.***UN "Model Regulation":** *Void***\* SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Industrial Chemicals***All ingredients are listed.***Standard for the Uniform Scheduling of Medicines and Poisons**

CAS: 1336-21-6 | ammonia

S5, S6

**Australia: Priority Existing Chemicals***None of the ingredients is listed.***GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).*

(Contd. on page 7)

**Trade name: Reagent CU1**

(Contd. of page 6)

**Hazard pictograms**



GHS05

**Signal word** *Danger*

**Hazard-determining components of labelling:**

*ammonia (2-6 %)*

**Hazard statements**

*Causes severe skin burns and eye damage.*

**Precautionary statements**

*IF ON SKIN (or hair): Remove/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.*

**Directive 2012/18/EU**

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

**National regulations:**

**Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*

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

**SECTION 16: Other information**

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

**Department issuing SDS:** *PCC-TWR*

**Contact:** *MSDS.pcc@endress.com*

**Abbreviations and acronyms:**

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

*IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)*

*ICAO: International Civil Aviation Organisation*

*ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)*

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

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Skin corrosion/irritation – Category 1B: Skin corrosion/irritation – Category 1B*

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

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

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

## SECTION 1: Identification

### Other means of identification

**Trade name:** Reagent CU2, Component 1

**Synonym:** *for copper*

**Article number:** 51512533

### Relevant identified uses of the substance or mixture and uses advised against

*No further relevant information available.*

**Application of the substance / the mixture** *Laboratory chemicals*

### Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

*Endress+Hauser  
Conducta GmbH+Co. KG  
Dieselstraße 24  
D-70839 Gerlingen*

#### Further information obtainable from:

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

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

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

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

## SECTION 2: Hazard(s) Identification

### Classification of the substance or mixture



*flame*

*Flammable liquids – Category 2      H225 Highly flammable liquid and vapour.*



*Eye damage/irritation – Category 2A      H319 Causes serious eye irritation.*

### Label elements

#### GHS label elements

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

#### Hazard pictograms



GHS02    GHS07

**Signal word** *Danger*

#### Hazard statements

*Highly flammable liquid and vapour.  
Causes serious eye irritation.*

#### Precautionary statements

*Keep away from heat/sparks/open flames/hot surfaces. No smoking.*

**Trade name: Reagent CU2, Component 1**

(Contd. of page 1)

Use explosion-proof electrical/ventilating/lighting equipment.

IF ON SKIN (or hair): Remove/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.

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

**Other hazards**

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

**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**SECTION 3: Composition and Information on Ingredients****Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

CAS: 64-17-5	ethanol	30-50%
EINECS: 200-578-6	☞ Flammable liquids – Category 2, H225; ☞ Eye damage/irritation – Category 2A, H319	

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

**SECTION 4: First Aid Measures****Description of first aid measures**

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

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

After skin contact: Immediately rinse with water.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult 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.

**SECTION 5: Fire Fighting Measures****Extinguishing media****Suitable extinguishing agents:**

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: no further information

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

Advice for firefighters No further relevant information available.

Protective equipment: No special measures required.

**SECTION 6: Accidental Release Measures****Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

**Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.

(Contd. on page 3)

**Trade name: Reagent CU2, Component 1**

(Contd. of page 2)

*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).*

*Dispose contaminated material as waste according to section 13.*

*Ensure adequate ventilation.*

**Reference to other sections**

*See Section 7 for information on safe handling.*

*See Section 8 for information on personal protection equipment.*

*See Section 13 for disposal information.*

## SECTION 7: Handling and Storage

**Precautions for safe handling** *No special precautions are necessary if used correctly.*

**Information about fire - and explosion protection:**

*Keep ignition sources away - Do not smoke.*

*Protect against electrostatic charges.*

**Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by storerooms and receptacles:** *Store in a cool location.*

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

**Further information about storage conditions:**

*Keep container tightly sealed.*

*Store in cool, dry conditions in well sealed receptacles.*

**Storage class:** 3

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

## SECTION 8: Exposure controls and personal protection

**Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**CAS: 64-17-5 ethanol**

WES (Australia)	Long-term value: 1880 mg/m <sup>3</sup> , 1000 ppm
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**Additional information:** *The lists valid during the making were used as basis.*

**Exposure controls**

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

**Individual protection measures, such as personal protective equipment**

**General protective and hygienic measures:**

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing*

*Wash hands before breaks and at the end of work.*

*Avoid contact with the eyes.*

*Avoid contact with the eyes and skin.*

**Respiratory protection:** *Not required.*

**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.*

(Contd. on page 4)

**Trade name: Reagent CU2, Component 1**

(Contd. of page 3)

**Material of gloves***Nitrile rubber, NBR*

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/face protection***Tightly sealed goggles*

**Body protection:** *Protective work clothing*

**SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties****General Information**

<b>Physical state</b>	<i>Fluid</i>
<b>Colour:</b>	<i>According to product specification</i>
<b>Odour:</b>	<i>Odourless</i>
<b>Odour threshold:</b>	<i>Not determined.</i>
<b>Melting point/freezing point:</b>	<i>Undetermined.</i>
<b>Boiling point or initial boiling point and boiling range</b>	<i>78 °C</i>
<b>Flammability</b>	<i>Highly flammable.</i>
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	<i>3.5 Vol %</i>
<b>Upper:</b>	<i>15 Vol %</i>
<b>Flash point:</b>	<i>&lt; 23 °C</i>
<b>Auto-ignition temperature:</b>	<i>425 °C</i>
<b>Decomposition temperature:</b>	<i>Not determined.</i>
<b>pH</b>	<i>Not determined.</i>
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	<i>Not determined.</i>
<b>Dynamic:</b>	<i>Not determined.</i>
<b>Solubility</b>	
<b>water:</b>	<i>Fully miscible.</i>
<b>Partition coefficient n-octanol/water (log value)</b>	<i>Not determined.</i>
<b>Vapour pressure at 20 °C:</b>	<i>59 hPa</i>
<b>Density and/or relative density</b>	
<b>Density at 20 °C:</b>	<i>0.883 g/cm<sup>3</sup></i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not determined.</i>
<b>Particle characteristics</b>	<i>Not applicable.</i>
<b>Other information</b>	
<b>Appearance:</b>	
<b>Form:</b>	<i>Fluid</i>
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Ignition temperature:</b>	<i>Product is not selfigniting.</i>
<b>Explosive properties:</b>	<i>Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</i>

(Contd. on page 5)

## Trade name: Reagent CU2, Component 1

(Contd. of page 4)

<b>Solvent content:</b>	
<b>Organic solvents:</b>	50.0 %
<b>Water:</b>	50.0 %
<b>Solids content:</b>	0.0 %
<b>Change in condition</b>	
<b>Evaporation rate</b>	Not determined.

**Information with regard to physical hazard classes**

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

**SECTION 10: Stability and Reactivity****Reactivity** No further relevant information available.**Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.**SECTION 11: Toxicological Information****Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values relevant for classification:****CAS: 64-17-5 ethanol**

Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/l (rat)

**Serious eye damage/irritation** Causes serious eye irritation.**Information on other hazards****Endocrine disrupting properties**

None of the ingredients is listed.

**SECTION 12: Ecological Information****Toxicity****Aquatic toxicity:** No further relevant information available.

(Contd. on page 6)

**Trade name: Reagent CU2, Component 1**

(Contd. of page 5)

**Persistence and degradability** *No further relevant information available.*

**Bioaccumulative potential** *No further relevant information available.*

**Mobility in soil** *No further relevant information available.*

**Results of PBT and vPvB assessment**

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

**Endocrine disrupting properties**

*The product does not contain substances with endocrine disrupting properties.*

**Other adverse effects**

**Additional ecological information:**

**General notes:**

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

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

**SECTION 13: Disposal considerations**

**Waste treatment methods**

**Recommendation**

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

**Uncleaned packaging:**

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

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

**SECTION 14: Transport information**

**UN number or ID number**

**IMDG, IATA**

UN1170

**UN proper shipping name**

**ADG**

UN1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

**IMDG**

**IATA**

ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Ethanol solution

**Transport hazard class(es)**

**ADG**



**Class**

3 (F1) Flammable liquids.

**Label**

3

**IMDG, IATA**



**Class**

3 Flammable liquids.

**Label**

3

**Packing group**

**ADG, IMDG, IATA**

II

**Environmental hazards:**

*Not applicable.*

**Special precautions for user**

*Warning: Flammable liquids.*

**Hazard identification number (Kemler code):** 33

**EMS Number:**

F-E,S-D

**Stowage Category**

A

(Contd. on page 7)

## Trade name: Reagent CU2, Component 1

(Contd. of page 6)

**Maritime transport in bulk according to IMO instruments**

Not applicable.

**Transport/Additional information:****ADG**

Limited quantities (LQ)	1L
Transport category	2
Tunnel restriction code	D/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 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

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

All ingredients are listed.

**Standard for the Uniform Scheduling of Medicines and Poisons**

None of the ingredients is listed.

**Australia: Priority Existing Chemicals**

None of the ingredients is listed.

**GHS label elements**

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

**Hazard pictograms**

GHS02 GHS07

**Signal word** *Danger***Hazard statements***Highly flammable liquid and vapour.**Causes serious eye irritation.***Precautionary statements***Keep away from heat/sparks/open flames/hot surfaces. No smoking.**Use explosion-proof electrical/ventilating/lighting equipment.**IF ON SKIN (or hair): Remove/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.**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.***Seveso category** *P5c FLAMMABLE LIQUIDS***Qualifying quantity (tonnes) for the application of lower-tier requirements** *5,000 t***Qualifying quantity (tonnes) for the application of upper-tier requirements** *50,000 t***National regulations:****Additional classification according to Decree on Hazardous Materials, Annex II:***Carcinogenic hazardous material group III (dangerous).***Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

(Contd. on page 8)

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**Trade name: Reagent CU2, Component 1**

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(Contd. of page 7)

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

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## **SECTION 16: Other information**

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

**Department issuing SDS:** PCC-TWR

**Contact:** *MSDS.pcc@endress.com*

**Abbreviations and acronyms:**

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

*IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)*

*ICAO: International Civil Aviation Organisation*

*ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)*

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

*IMDG: International Maritime Code for Dangerous Goods*

*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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Flammable liquids – Category 2: Flammable liquids – Category 2*

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

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

## SECTION 1: Identification

### Other means of identification

**Trade name:** Reagent CU2, Component 2

**Synonym:** *for copper*

**Article number:** 51512534

**CAS Number:**

370-81-0

**EC number:**

206-729-2

**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*

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

*Endress+Hauser*

*Conducta GmbH+Co. KG*

*Dieselstraße 24*

*D-70839 Gerlingen*

**Further information obtainable from:**

*Phone: +49 (0)7156 209-10117*

*E-Mail: MSDS.PCC@endress.com*

*Regional representation:*

*Endress+Hauser Australia Pty Ltd*

*16 Giffnock Avenue*

*Macquarie Park, NSW 2113*

*Australia*

*Phone: 1300 363 707*

*Phone: +61 2 8877 7000*

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

## SECTION 2: Hazard(s) Identification

**Classification of the substance or mixture**

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

**Label elements**

**GHS label elements** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

**Other hazards**

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

**Results of PBT and vPvB assessment**

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

## SECTION 3: Composition and Information on Ingredients

**Substances**

**CAS No. Description**

*CAS: 370-81-0 N,N-oxalylbis(cyclohexanone hydrazone)*

(Contd. on page 2)

— AUS —

**Trade name: Reagent CU2, Component 2**

(Contd. of page 1)

**Identification number(s)**  
**EC number: 206-729-2****SECTION 4: First Aid Measures****Description of first aid measures****General information:** *No special measures required.***After inhalation:** *Supply fresh air; consult doctor in case of complaints.***After skin contact:** *Generally the product does not irritate the skin.***After eye contact:** *Rinse opened eye for several minutes under running water.***After swallowing:** *If symptoms persist consult doctor.***Most important symptoms and effects, both acute and delayed**  
*No further relevant information available.***Indication of any immediate medical attention and special treatment needed**  
*No further relevant information available.***SECTION 5: Fire Fighting Measures****Extinguishing media****Suitable extinguishing agents:***CO<sub>2</sub>, 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.***SECTION 6: Accidental Release Measures****Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.***Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:** *Pick up mechanically.***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****Precautions for safe handling** *No special measures required.***Information about fire - and explosion protection:** *No special measures required.***Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *None.***Storage class:** 13**Specific end use(s)** *No further relevant information available.***SECTION 8: Exposure controls and personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:** *Not required.*

(Contd. on page 3)

**Trade name: Reagent CU2, Component 2**

(Contd. of page 2)

**Additional information:** *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see section 7.***Individual protection measures, such as personal protective equipment****General protective and hygienic measures:***The usual precautionary measures are to be adhered to when handling chemicals.***Respiratory protection:** *Not required.***Hand protection** *No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.***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/face protection** *Not required.***Body protection:** *Protective work clothing***SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties****General Information****Physical state***Solid***Colour:***Not determined.***Odour:***Odourless***Odour threshold:***Not determined.***Melting point/freezing point:***208-214 °C***Boiling point or initial boiling point and boiling range***Undetermined.***Flammability***Product is not flammable.***Lower and upper explosion limit****Lower:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.***Decomposition temperature:***Not determined.***pH***Not applicable.***Viscosity:****Kinematic viscosity***Not applicable.***Dynamic:***Not applicable.***Solubility****water:***Insoluble.***Partition coefficient n-octanol/water (log value)** *Not determined.***Vapour pressure:***Not applicable.***Density and/or relative density****Density at 20 °C:***0.28 g/cm<sup>3</sup>***Relative density***Not determined.***Vapour density***Not applicable.***Particle characteristics***Not determined.***Other information****Appearance:****Form:***Crystalline powder***Important information on protection of health and environment, and on safety.****Ignition temperature:***Not determined.*

(Contd. on page 4)

## Trade name: Reagent CU2, Component 2

(Contd. of page 3)

<b>Explosive properties:</b>	<i>Product does not present an explosion hazard. Not determined.</i>
<b>Solids content:</b>	100.0 %
<b>Molecular weight</b>	278.36 g/mol
<b>Change in condition</b>	
<b>Evaporation rate</b>	<i>Not applicable.</i>

**Information with regard to physical hazard classes**

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

**SECTION 10: Stability and Reactivity****Reactivity** *No further relevant information available.***Chemical stability****Thermal decomposition / conditions to be avoided:***No decomposition if used according to specifications.***Possibility of hazardous reactions** *No dangerous reactions known.***Conditions to avoid** *No further relevant information available.***Incompatible materials:** *No further relevant information available.***Hazardous decomposition products:** *No dangerous decomposition products known.***SECTION 11: Toxicological Information****Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** *Based on available data, the classification criteria are not met.***Skin corrosion/irritation** *Based on available data, the classification criteria are not met.***Serious eye damage/irritation** *Based on available data, the classification criteria are not met.***Respiratory or skin sensitisation** *Based on available data, the classification criteria are not met.***Germ cell mutagenicity** *Based on available data, the classification criteria are not met.***Carcinogenicity** *Based on available data, the classification criteria are not met.***Reproductive toxicity** *Based on available data, the classification criteria are not met.***STOT-single exposure** *Based on available data, the classification criteria are not met.***STOT-repeated exposure** *Based on available data, the classification criteria are not met.***Aspiration hazard** *Based on available data, the classification criteria are not met.***Information on other hazards****Endocrine disrupting properties***Substance is not listed.*

(Contd. on page 5)

Trade name: Reagent CU2, Component 2

(Contd. of page 4)

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

The product does not contain substances with endocrine disrupting properties.

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

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

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

**SECTION 13: Disposal considerations****Waste treatment methods****Recommendation** Smaller quantities can be disposed of with household waste.**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****UN number or ID number****ADN, IMDG, IATA** Void**UN proper shipping name****ADG, ADN, IMDG, IATA** Void**Transport hazard class(es)****ADG, ADN, IMDG, IATA****Class** Void**Packing group****ADG, IMDG, IATA** Void**Environmental hazards:****Marine pollutant:** No**Special precautions for user** Not applicable.**Maritime transport in bulk according to IMO****instruments** Not applicable.**Transport/Additional information:**

Not dangerous according to the above specifications.

**UN "Model Regulation":** Void**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Industrial Chemicals**

Substance is listed.

**Standard for the Uniform Scheduling of Medicines and Poisons**

Substance is not listed.

**Australia: Priority Existing Chemicals**

Substance is not listed.

(Contd. on page 6)

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**Trade name: Reagent CU2, Component 2**

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**GHS label elements** *Void***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 (Self-assessment): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

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**SECTION 16: Other information**

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**Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:**

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*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

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

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