

Product code	Description
<b>CAY546-VxxAAH</b>	<b>CA7xCL Reagent set for total chlorine</b>

## Components:

51513037	Reagent CL1, Component 1 for chlorine
51513039	Reagent CL1, Component 2 for chlorine
51513040	Reagent CL2, Component 1 for chlorine
51513041	Reagent CL2, Component 2 for chlorine

## SECTION 1: Identification

### Product identifier

**Trade name:** Reagent CL1, Component 1

**Synonym:** *for chlorine*

**Article number:** 51513037

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

### Label elements

**GHS label elements** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

### Other hazards

### Results of PBT and vPvB assessment

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

## SECTION 3: Composition and Information on Ingredients

### Mixtures

**Description:** *Mixture of non-hazardous substances*

**Dangerous components:** *Void*

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

## SECTION 4: First Aid Measures

### Description of first aid measures

**General information:** *No special measures required.*

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

**Trade name: Reagent CL1, Component 1**

(Contd. of page 1)

**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:** *Use fire extinguishing methods suitable to surrounding conditions.*

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

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

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

**Protective equipment:** *No special measures required.*

**SECTION 6: Accidental Release Measures**

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

**Environmental precautions:** *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**

*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:**

*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 item 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.*

(Contd. on page 3)

**Trade name: Reagent CL1, Component 1**

(Contd. of page 2)

**Hand protection** *No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***Eyeface protection** *Not required.***Body protection:** *Protective work clothing***SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties****General Information**

<b>Physical state</b>	<i>Solid</i>
<b>Colour:</b>	<i>White</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>Undetermined.</i>
<b>Flammability</b>	<i>Not determined.</i>
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	<i>Not determined.</i>
<b>Upper:</b>	<i>Not determined.</i>
<b>Flash point:</b>	<i>Not applicable.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	<i>Not applicable.</i>
<b>Dynamic:</b>	<i>Not applicable.</i>
<b>Solubility</b>	
<b>water:</b>	<i>Soluble.</i>
<b>Partition coefficient n-octanol/water (log value)</b>	<i>Not determined.</i>
<b>Vapour pressure:</b>	<i>Not applicable.</i>
<b>Density and/or relative density</b>	
<b>Density:</b>	<i>Not determined.</i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not applicable.</i>

**Other information****Appearance:****Form:** *Powder***Important information on protection of health and environment, and on safety.****Auto-ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.  
Not determined.***Solvent content:****Solids content:***100.0 %***Change in condition****Evaporation rate***Not applicable.***Information with regard to physical hazard classes****Explosives***Void*

(Contd. on page 4)

## Trade name: Reagent CL1, Component 1

(Contd. of page 3)

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

**SECTION 10: Stability and Reactivity****Reactivity** *No further relevant information available.***Chemical stability****Thermal decomposition / conditions to be avoided:***No decomposition if used according to specifications.***Possibility of hazardous reactions** *No dangerous reactions known.***Conditions to avoid** *No further relevant information available.***Incompatible materials:** *No further relevant information available.***Hazardous decomposition products:** *No dangerous decomposition products known.***SECTION 11: Toxicological Information****Information on other hazards****Endocrine disrupting properties***None of the ingredients is listed.***SECTION 12: Ecological Information****Toxicity****Aquatic toxicity:** *No further relevant information available.***Persistence and degradability** *No further relevant information available.***Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Endocrine disrupting properties***The product does not contain substances with endocrine disrupting properties.***Other adverse effects****Additional ecological information:****General notes:***Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water**Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

(Contd. on page 5)

Trade name: Reagent CL1, Component 1

(Contd. of page 4)

**SECTION 13: Disposal considerations****Waste treatment methods****Recommendation** *Smaller quantities can be disposed of with household waste.***Uncleaned packaging:****Recommendation:** *Disposal must be made according to official regulations.***Recommended cleansing agents:** *Water, if necessary together with cleansing agents.***\* SECTION 14: Transport information****UN number or ID number****ADN, IMDG, IATA** *Void***UN proper shipping name****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***All ingredients are listed.***Standard for the Uniform Scheduling of Medicines and Poisons**CAS: 7558-79-4 | *disodium hydrogenorthophosphate*

S3, S4

**Australia: Priority Existing Chemicals***None of the ingredients is listed.***GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***Directive 2012/18/EU****Named dangerous substances - ANNEX I** *None of the ingredients is listed.***National regulations:****Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information***This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.***Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com*

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**Trade name: Reagent CL1, Component 1**

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(Contd. of page 5)

**Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

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

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## SECTION 1: Identification

### Product identifier

**Trade name:** Reagent CL1, Component 2

**Synonym:** *for chlorine*

**Article number:** 51513039

**CAS Number:**

7681-11-0

**EC number:**

231-659-4

**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: 7681-11-0 potassium iodide*

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**Trade name: Reagent CL1, Component 2**

(Contd. of page 1)

**Identification number(s)**  
**EC number: 231-659-4****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:** 11**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 CL1, Component 2

(Contd. of page 2)

DNELs		
<b>CAS: 7681-11-0 potassium iodide</b>		
Oral	DNEL long term exposure	0.01 mg/kg /bw/day (consumer) (systemic effect)
Dermal	DNEL long term	1 mg/kg /bw/day (worker) (systemic effect) 1 mg/kg /bw/day (consumer) (systemic effect)
Inhalative	DNEL long-term	0.07 mg/m <sup>3</sup> (worker) (systemic effect) 0.035 mg/m <sup>3</sup> (consumer) (systemic effect)
PNECs		
<b>CAS: 7681-11-0 potassium iodide</b>		
PNEC	0.007 mg/L (fresh water)	
PNEC	0.007 mg/kg (freshwater sediment)	

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

**Exposure controls**

**Appropriate engineering controls** No further data; see item 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.

**Eyeface protection** Not required.

**Body protection:** Protective work clothing

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

Solid

**Colour:**

White

**Odour:**

Odourless

**Odour threshold:**

Not determined.

**Melting point/freezing point:**

681 °C

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

1,330 °C

**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 at 20 °C:**

1.4 g/l

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

(Contd. on page 4)

## Trade name: Reagent CL1, Component 2

(Contd. of page 3)

Vapour pressure:	Not applicable.
Density and/or relative density	
Density at 20 °C:	3.13 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not applicable.
Other information	
Appearance:	
Form:	Solid material
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	Not determined.
Explosive properties:	Product does not present an explosion hazard. Not determined.
Solids content:	100.0 %
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

**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 other hazards

## Endocrine disrupting properties

Substance is not listed.

(Contd. on page 5)

Trade name: Reagent CL1, 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) (Assessment by list): slightly hazardous for water

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

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

ADN, IMDG, IATA Void

**UN proper shipping name**

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.

(Contd. on page 6)

**Trade name: Reagent CL1, Component 2**

(Contd. of page 5)

**Australia: Priority Existing Chemicals***Substance is not listed.***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 (Assessment by list): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information**

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

**Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***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**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***\* Data compared to the previous version altered.**

## SECTION 1: Identification

### Product identifier

**Trade name:** Reagent CL2, Component 1

**Synonym:** *for chlorine*

**Article number:** 51513040

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

### Label elements

**GHS label elements** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

### Other hazards

### Results of PBT and vPvB assessment

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

## SECTION 3: Composition and Information on Ingredients

### Mixtures

**Description:** *aqueous solution*

**Dangerous components:** *Void*

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

## SECTION 4: First Aid Measures

### Description of first aid measures

**General information:** *No special measures required.*

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

**Trade name: Reagent CL2, Component 1**

(Contd. of page 1)

**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:** *Use fire extinguishing methods suitable to surrounding conditions.*

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

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

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

**Protective equipment:** *No special measures required.*

**SECTION 6: Accidental Release Measures**

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

**Environmental precautions:** *Dilute with plenty of water.*

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

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

**Reference to other sections**

*See Section 7 for information on safe handling.*

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

*See Section 13 for disposal information.*

**SECTION 7: Handling and Storage**

**Precautions for safe handling** *No special measures required.*

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

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

**Storage:**

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

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

**Further information about storage conditions:** *None.*

**Storage class:** 12

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

**SECTION 8: Exposure controls 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 item 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.*

(Contd. on page 3)

**Trade name: Reagent CL2, Component 1**

(Contd. of page 2)

**Hand protection** *No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***Eyeface protection** *Not required.***Body protection:** *Protective work clothing***SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties****General Information**

<b>Physical state</b>	<i>Fluid</i>
<b>Colour:</b>	<i>Colourless</i>
<b>Odour:</b>	<i>Odourless</i>
<b>Odour threshold:</b>	<i>Not determined.</i>
<b>Melting point/freezing point:</b>	<i>0 °C</i>
<b>Boiling point or initial boiling point and boiling range</b>	<i>100 °C</i>
<b>Flammability</b>	<i>Not applicable.</i>
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	<i>Not determined.</i>
<b>Upper:</b>	<i>Not determined.</i>
<b>Flash point:</b>	<i>Not applicable.</i>
<b>pH at 20 °C</b>	<i>&lt;2</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>23 hPa</i>
<b>Density and/or relative density</b>	
<b>Density at 20 °C:</b>	<i>1 g/cm<sup>3</sup></i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not determined.</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>Auto-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>	<i>99.8 %</i>
<b>Solids content:</b>	<i>0.0 %</i>
<b>Change in condition</b>	
<b>Evaporation rate</b>	<i>Not determined.</i>

(Contd. on page 4)



## Trade name: Reagent CL2, Component 1

(Contd. of page 3)

## Information with regard to physical hazard

## classes

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

## SECTION 10: Stability and Reactivity

**Reactivity** No further relevant information available.

**Chemical stability**

**Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.

**Conditions to avoid** No further relevant information available.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological Information

## Information on other hazards

## Endocrine disrupting properties

None of the ingredients is listed.

## \* SECTION 12: Ecological Information

## Toxicity

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

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

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

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

## Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

## Other adverse effects

## Additional ecological information:

## General notes:

Not hazardous for water.

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.

(Contd. on page 5)

Trade name: Reagent CL2, Component 1

(Contd. of page 4)

**SECTION 13: Disposal considerations****Waste treatment methods****Recommendation** *Smaller quantities can be disposed of with household waste.***Uncleaned packaging:****Recommendation:** *Disposal must be made according to official regulations.***Recommended cleansing agents:** *Water, if necessary together with cleansing agents.***\* SECTION 14: Transport information****UN number or ID number****ADN, IMDG, IATA** *Void***UN proper shipping name****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***All ingredients are listed.***Standard for the Uniform Scheduling of Medicines and Poisons**CAS: 7664-93-9 | *sulphuric acid*

S6

**Australia: Priority Existing Chemicals***None of the ingredients is listed.***GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***Directive 2012/18/EU****Named dangerous substances - ANNEX I** *None of the ingredients is listed.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information***This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.***Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods*

(Contd. on page 6)

# Safety Data Sheet

according to WHS Regulations

Page 6/6

Printing date 19.03.2022

Version 5 (replaces version 4)

Revision: 18.03.2022

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## Trade name: Reagent CL2, Component 1

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(Contd. of page 5)

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

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

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— AUS —

## SECTION 1: Identification

### Product identifier

**Trade name:** Reagent CL2, Component 2

**Synonym:** *for chlorine*

**Article number:** 51513041

**CAS Number:**

6283-63-2

**EC number:**

228-500-6

**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**



*Acute Tox. 4 H302 Harmful if swallowed.*

**Label elements**

**GHS label elements**

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

**Hazard pictograms**



GHS07

**Signal word** *Warning*

**Hazard-determining components of labelling:**

*N,N-diethylbenzene-1,4-diammonium sulphate*

**Hazard statements**

*Harmful if swallowed.*

**Trade name: Reagent CL2, Component 2**

(Contd. of page 1)

**Precautionary statements***Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**Rinse mouth.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Other hazards****Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***\* SECTION 3: Composition and Information on Ingredients****Substances****CAS No. Description***CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate***Identification number(s)****EC number:** *228-500-6***SECTION 4: First Aid Measures****Description of first aid measures****General information:***Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.***After inhalation:** *Supply fresh air; 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:** *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:** *Use fire extinguishing methods suitable to surrounding conditions.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *No further relevant information available.***Protective equipment:** *No special measures required.***SECTION 6: Accidental Release Measures****Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.***Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:***Dispose contaminated material as waste according to item 13.***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.*

(Contd. on page 3)

Trade name: Reagent CL2, Component 2

(Contd. of page 2)

**SECTION 7: Handling and Storage****Precautions for safe handling** *No special precautions are necessary if used correctly.***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:** 11**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.***Additional information:** *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see item 7.***Individual protection measures, such as personal protective equipment****General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Wash hands before breaks and at the end of work.***Respiratory protection:** *Not required.***Hand protection***To avoid skin problems reduce the wearing of gloves to the required minimum.**The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**No chemical-protective gloves required.***Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***Body protection:** *Protective work clothing***SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties****General Information****Physical state***Solid***Colour:***White***Odour:***Odourless***Odour threshold:***Not determined.***Melting point/freezing point:***184-187 °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.***pH***Not applicable.*

(Contd. on page 4)

## Trade name: Reagent CL2, Component 2

(Contd. of page 3)

<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	<i>Not applicable.</i>
<b>Dynamic:</b>	<i>Not applicable.</i>
<b>Solubility</b>	
<b>water at 20 °C:</b>	<i>1000 g/l</i>
<b>Partition coefficient n-octanol/water (log value)</b>	<i>Not determined.</i>
<b>Vapour pressure:</b>	<i>Not applicable.</i>
<b>Density and/or relative density</b>	
<b>Density at 20 °C:</b>	<i>0.5 g/cm<sup>3</sup></i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not applicable.</i>
<b>Other information</b>	
<b>Appearance:</b>	
<b>Form:</b>	<i>Crystalline powder</i>
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Auto-ignition temperature:</b>	<i>Not determined.</i>
<b>Explosive properties:</b>	<i>Product does not present an explosion hazard.</i>
	<i>Not determined.</i>
<b>Solids content:</b>	<i>100.0 %</i>
<b>Change in condition</b>	
<b>Evaporation rate</b>	<i>Not applicable.</i>
<b>Information with regard to physical hazard classes</b>	
<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.*

(Contd. on page 5)

Trade name: Reagent CL2, Component 2

(Contd. of page 4)

**SECTION 11: Toxicological Information**

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

**Acute toxicity** Harmful if swallowed.**Information on other hazards****Endocrine disrupting properties***Substance is not listed.***SECTION 12: Ecological Information****Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Endocrine disrupting properties***The product does not contain substances with endocrine disrupting properties.***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**

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

(Contd. on page 6)



Trade name: Reagent CL2, Component 2

(Contd. of page 5)

**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.***GHS label elements***The substance is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS07

**Signal word** *Warning***Hazard-determining components of labelling:***N,N-diethylbenzene-1,4-diammonium sulphate***Hazard statements***Harmful if swallowed.***Precautionary statements***Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**Rinse mouth.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Directive 2012/18/EU****Named dangerous substances - ANNEX I** *Substance is not listed.***National regulations:****Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information***This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.***Department issuing SDS:** *PCC-TWR***Contact:** *MSDS.pcc@endress.com***Abbreviations and acronyms:***ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 4: Acute toxicity – Category 4***\* Data compared to the previous version altered.**