19.03.2022	Kit Components	
Product code	Description	
CAY546-VxxAAE	CA7xCL Reagent Set for total chlorine	
Components:		
71255128	Reagent CL1 for total chlorine	
71252292	Reagent CL2 for chlorine	

Endress+Hauser 🖾

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Printing date 19.03.2022 Version 6 (replaces version 5) Revision: 19.03.2022

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

1.1 Product identifier

Trade name: Reagent CL1 Synonym: for total chlorine Article number: 71255128

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

Product category PC21 Laboratory chemicals

Application of the substance / the mixture Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

Further information obtainable from:

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

1.4 Emergency telephone number: Phone: +49(0)6131-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

2.2 Label elements

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

Hazard pictograms Void

Signal word Void

Hazard statements Void

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable. vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 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

4.1 Description of first aid measures

General information: No special measures required.

After inhalation: Supply fresh air; consult doctor in case of complaints. After skin contact: Generally the product does not irritate the skin.

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

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 2)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 6 (replaces version 5) Revision: 19.03.2022

Trade name: Reagent CL1

(Contd. of page 1)

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: no further information

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

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

Protective equipment: No special measures required.

SECTION 6: Accidental release measures

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

6.2 Environmental precautions:

Dilute with plenty of water.

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

6.3 Methods and material for containment and cleaning up:

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

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling No special measures required.

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

7.2 Conditions for safe storage, including any incompatibilities

Storage:

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

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

Further information about storage conditions: None.

Storage class: 12

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

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.

8.2 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be

(Contd. on page 3)

Printing date 19.03.2022 Version 6 (replaces version 5) Revision: 19.03.2022

Trade name: Reagent CL1

checked prior to the application.

(Contd. of page 2)

Penetration time of glove material

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

Eve/face protection Not required.

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state Fluid Colour: Colourless Odour: Characteristic **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. рΗ Not determined.

Viscosity:

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

Solubility

Fully miscible. water: Partition coefficient n-octanol/water (log value) Not determined.

Vapour pressure at 20 °C: 23 hPa

Density and/or relative density

Density: Not determined. Relative density Not determined. Vapour density Not determined.

9.2 Other information

Appearance:

Fluid Form:

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:

Water: 85.4 % Solids content: 0.0 %

Change in condition

Evaporation rate Not determined.

Information with regard to physical hazard

classes

Explosives Void Flammable gases Void Void **Aerosols** Oxidising gases Void Gases under pressure Void Flammable liquids Void

(Contd. on page 4)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 6 (replaces version 5) Revision: 19.03.2022

Trade name: Reagent CL1

(Contd. of page 3) 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

Void

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Desensitised explosives

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

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

SECTION 11: Toxicological information

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

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

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

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

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

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

- **12.2 Persistence and degradability** *No further relevant information available.*
- **12.3 Bioaccumulative potential** *No further relevant information available.*
- 12.4 Mobility in soil No further relevant information available.
- 12.5 Results of PBT and vPvB assessment

PBT: Not applicable. vPvB: Not applicable.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

(Contd. on page 5)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 6 (replaces version 5) Revision: 19.03.2022

Trade name: Reagent CL1

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12.7 Other adverse effects

Additional ecological information:

General notes:

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Smaller quantities can be disposed of with household waste.

European waste catalogue

16 05 09 discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

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

SECTION 14: Transport information

14.1 UN number or ID number

ADR, ADN, IMDG, IATA Void

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

14.4 Packing group

ADR, IMDG, IATA Void

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions for user Not applicable.

14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

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

UN "Model Regulation": Void

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Labelling according to Regulation (EC) No 1272/2008 *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.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

(Contd. on page 6)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 6 (replaces version 5) Revision: 19.03.2022

Trade name: Reagent CL1

(Contd. of page 5)

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations:

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

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

SECTION 16: Other information

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

16.3 Recommended restriction of use

Department issuing SDS: PCC-TWR
Contact: MSDS.pcc@endress.com
Date of previous version: 11.09.2021
Version number of previous version: 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

GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.

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Printing date 19.03.2022 Version 5 (replaces version 4) Revision: 19.03.2022

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

1.1 Product identifier

Trade name: Reagent CL2 Synonym: for chlorine Article number: 71252292

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

Product category PC21 Laboratory chemicals

Application of the substance / the mixture Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

Further information obtainable from:

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

1.4 Emergency telephone number: Phone: +49(0)6131-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

2.2 Label elements

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

Hazard pictograms Void

Signal word Void

Hazard statements Void

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable. vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 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

4.1 Description of first aid measures

General information: No special measures required.

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

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

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

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 2)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 5 (replaces version 4) Revision: 19.03.2022

Trade name: Reagent CL2

(Contd. of page 1)

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: no further information

- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- **5.3 Advice for firefighters** *No further relevant information available.*

Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- **6.2 Environmental precautions:** Dilute with plenty of water.
- 6.3 Methods and material for containment and cleaning up:

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

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling No special measures required.

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

7.2 Conditions for safe storage, including any incompatibilities

Storage:

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

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

Further information about storage conditions: None.

Storage class: 12

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

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.

8.2 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. 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.

(Contd. on page 3)

Printing date 19.03.2022 Version 5 (replaces version 4) Revision: 19.03.2022

Trade name: Reagent CL2

(Contd. of page 2)

Penetration time of glove material

The exact break trough 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

9.1 Information on basic physical and chemical properties

General Information

Physical state Fluid
Colour: Colourless
Odour: Odourless
Odour threshold: Not determined.

Melting point/freezing point: $0 \, ^{\circ}C$

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.pHNot determined.

Viscosity:

Kinematic viscosity Dynamic:Not determined.
Not determined.

Solubility

water: Fully miscible.

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

Vapour pressure at 20 °C: 23 hPa

Density and/or relative density

Density at 20 °C: 1.01 g/cm³
Relative density Not determined.
Vapour density Not determined.

9.2 Other information

Appearance:

Form: Liquid

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:

Water: 99.6 % Solids content: 0.0 %

Change in condition

Evaporation rate Not determined.

Information with regard to physical hazard

classes

Explosives Void
Flammable gases Void
Aerosols Void
Oxidising gases Void
Gases under pressure Void
Flammable liquids Void
Flammable solids Void

(Contd. on page 4)

Printing date 19.03.2022 Version 5 (replaces version 4) Revision: 19.03.2022

Trade name: Reagent CL2

(Contd. of page 3) 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

Void

SECTION 10: Stability and reactivity

- 10.1 Reactivity No further relevant information available.
- 10.2 Chemical stability

Desensitised explosives

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

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

SECTION 11: Toxicological information

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

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

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

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

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

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

- **12.2 Persistence and degradability** *No further relevant information available.*
- 12.3 Bioaccumulative potential No further relevant information available.
- **12.4 Mobility in soil** *No further relevant information available.*
- 12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:

General notes: Not hazardous for water.

(Contd. on page 5)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 5 (replaces version 4) Revision: 19.03.2022

Trade name: Reagent CL2

(Contd. of page 4)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Smaller quantities can be disposed of with household waste.

European waste catalogue

16 05 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

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

SECTION 14: Transport information

14.1 UN number or ID number

ADR, ADN, IMDG, IATA Void

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class Void

14.4 Packing group

ADR, IMDG, IATA Void

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions for user Not applicable.

14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

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

UN "Model Regulation": Void

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Labelling according to Regulation (EC) No 1272/2008 *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.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

CAS: 7664-93-9 sulphuric acid

(Contd. on page 6)

according to 1907/2006/EC, Article 31

Printing date 19.03.2022 Version 5 (replaces version 4) Revision: 19.03.2022

Trade name: Reagent CL2

(Contd. of page 5)

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

CAS: 7664-93-9 sulphuric acid

3

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

SECTION 16: Other information

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

16.3 Recommended restriction of use

Department issuing SDS: PCC-TWR Contact: MSDS.pcc@endress.com Date of previous version: 11.09.2021 Version number of previous version: 4

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the

International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances

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

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

- EU ---

^{*} Data compared to the previous version altered.