

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.01.2023

Version number 5 (replaces version 4)

Revision: 19.01.2023

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

1.1 Product identifier

Trade name: **Puffer Freies Chlor / Buffer Free Chlorine**

Article number:

860160 (CLDF-Kit 30)

860170 (CLDF-Kit 360)

Description: Buffer reagent

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

Product category: PC21 Laboratory chemicals

Process category: PROC15 Use as laboratory reagent

Application of the substance / the preparation: Reagent for the free chlorine measurement with analyzer

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Xylem Analytics Germany GmbH

WTW

Am Achalaich 11

82362 Weilheim

Germany

Tel. +49 881 183-0

Further information obtainable from: E-mail: Info.WTW@xylem.com

1.4 Emergency telephone number: Chemtrec: (USA & Canada) 800-424-9300 (International) 001 703-527-3887

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

Additional information:

EUH210 Safety data sheet available on request.

2.3 Other hazards No further relevant information available.

SECTION 3: Composition/information on ingredients


3.2 Mixtures

Description:

Mixture, consisting of the following components:

Trisodium citrate, ethylenediaminetetraacetic acid disodium salt

Dangerous components:

CAS: 6381-92-6	Disodium ethylenediaminetetraacetate dihydrate	1-5%
EINECS: 205-358-3	 STOT RE 2, H373;  Acute Tox. 4, H332; Aquatic Chronic 3, H412	

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

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SECTION 4: First aid measures

4.1 Description of first aid measures

- **After inhalation:** Supply fresh air.
- **After skin contact:** Rinse skin with water [or shower].
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:**
 - Rinse out mouth and then drink plenty of water.
 - Get medical advice/attention if you feel unwell.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
 - In case of fire, the following can be released:
Nitrogen oxides (NO_x)
- **5.3 Advice for firefighters**
 - **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - No special measurements required when handled properly.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 - Pick up mechanically.
 - Wash off residuals with water.
- **6.4 Reference to other sections** No dangerous substances are released.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Prevent formation of dust.
 - **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
 - **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:** Store tightly sealed at temperatures between 15 °C and 25 °C.
- **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.

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Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

- Avoid contact with the eyes and skin.
- Take off contaminated clothing and wash it before reuse.
- Wash hands before breaks and at the end of work.

Respiratory protection:

Not required.

Hand protection

Protective gloves recommended for frequent or long-term skin contact.

Material of gloves Nitrile rubber, NBR

Eye/face protection

Safety glasses

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state	Solid
Colour:	Colourless
Odour:	Odourless
Melting point/freezing point:	>300 °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.
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic:	Not applicable.
Solubility	
water at 20 °C:	29.4 g/l
Vapour pressure:	Not applicable.
Density and/or relative density	
Density:	Not determined.
Particle characteristics	See item 3.

9.2 Other information

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.

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

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· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Strong oxidizing agents.
- **10.6 Hazardous decomposition products:** In case of fire, see section 5.

SECTION 11: Toxicological information

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

- **Acute toxicity**

No quantitative toxicity data are available for this product.
Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

6381-92-6 Disodium ethylenediaminetetraacetate dihydrate

Oral	LD50	> 2000 mg/kg (Rat) (Lit.)
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- **Skin corrosion/irritation**

Local irritation possible.
Based on available data, the classification criteria are not met.

- **Serious eye damage/irritation**

Irritation possible.
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** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

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12.7 Other adverse effects

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.

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.

Additional ecological information:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Disposal must comply with the relevant local regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.

Uncleaned packaging:

Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

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

SECTION 14: Transport information

14.1 UN number or ID number	
ADR/RID, ADN, IMDG, IATA	Void
14.2 UN proper shipping name	
ADR/RID	Void
	Void
ADN, IMDG, IATA	Void
14.3 Transport hazard class(es)	
ADR/RID, ADN, IMDG, IATA	
Class	Void
14.4 Packing group	
ADR/RID, IMDG, IATA	Void
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user	Not applicable.
14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

Directive 2012/18/EU

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

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· **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**

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.

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

SECTION 16: Other information

· Relevant phrases

H332 Harmful if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

· **Date of previous version:** 13.10.2021

· **Version number of previous version:** 4

· Abbreviations and acronyms:

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

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

ICAO: International Civil Aviation Organisation

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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

1.1 Product identifier

Trade name: Indikator / Indicator

Article number:

860160 (CLDF-Kit 30)
860165 (CLDT-Kit 30)
860170 (CLDF-Kit 360)
860175 (CLDT-Kit 360)

CAS number:

6192-52-5

EC number:

203-180-0

Description: Indicator reagent

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

Product category: PC21 Laboratory chemicals

Process category: PROC15 Use as laboratory reagent

Application of the substance / the preparation: Reagent for the chlorine measurements with analyzer

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Xylem Analytics Germany GmbH
WTW
Am Achalaich 11
82362 Weilheim
Germany
Tel. +49 881 183-0

Further information obtainable from: E-mail: Info.WTW@xylem.com

1.4 Emergency telephone number: Chemtrec: (USA & Canada) 800-424-9300 (International) 001 703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008: The substance is classified and labelled according to the CLP regulation.

Hazard pictograms:



GHS07

Signal word: Warning

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· **Hazard-determining components of labelling:**

p-toluenesulphonic acid (containing a maximum of 5 % H₂SO₄)

· **Hazard statements:**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear eye protection / face protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **2.3 Other hazards** No further relevant information available.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

6192-52-5 p-toluenesulphonic acid (containing a maximum of 5 % H₂SO₄)

· **Identification number(s):**

· **EC number:** 203-180-0

· **Index number:** 016-030-00-2

· **Specific concentration limits** STOT SE 3; C ≥ 20 %

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **After inhalation:** Supply fresh air or oxygen; call for doctor.

· **After skin contact:**

Wash with plenty of water.

Take off immediately all contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

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

· **After swallowing:**

Make victim drink water immediately (2 glasses at most).

Do not induce vomiting (risk of perforation)

Call a doctor immediately.

Do not attempt to neutralize.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:** Water, carbon dioxide (CO₂), foam, extinguishing powder

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

In case of fire, the following can be released:

Sulphur oxides (SO_x)

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information** Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Avoid formation of dust.

Wear personal protective equipment (see section 8).

· 6.2 Environmental precautions:

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

· 6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

Wash off residuals with water.

Dispose contaminated material as waste according to section 13.

· 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

Prevent formation of dust.

Wear personal protective equipment (see section 8)

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

· 7.2 Conditions for safe storage, including any incompatibilities

· **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:** Store tightly sealed at temperatures between 15 °C and 25 °C.

· 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:** Not required.

· **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:**

Avoid contact with the eyes and skin.

Take off contaminated clothing and wash it before reuse.

Wash hands before breaks and at the end of work.

· **Respiratory protection:** Required when dusts are formed.

· **Recommended filter device for short term use:** Filter P2

· **Hand protection** Protective gloves

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

· **Eye/face protection** Safety glasses

· **Environmental exposure controls**

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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

· Physical state	Solid
· Colour:	Pink
· Odour:	Odourless
· Melting point/freezing point:	(water-free substance) Undetermined.
· 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	1
· Viscosity:	
· Kinematic viscosity	Not applicable.
· Dynamic:	Not applicable.
· Solubility	
· water:	Soluble.
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Particle characteristics	See item 3.

9.2 Other information

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

· Explosive properties:	Product does not present an explosion hazard.
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Information with regard to physical hazard classes

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

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: Do not heat.

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- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Acids, alkalis, metals, strong oxidants.
- **10.6 Hazardous decomposition products:** In case of fire, see section 5.

SECTION 11: Toxicological information

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

· Acute toxicity

No quantitative toxicity data are available for this product.
Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

6192-52-5 p-toluenesulphonic acid (containing a maximum of 5 % H₂SO₄)

Oral | LD50 | 2570 mg/kg (Rat) (RTECS)

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **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** May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· 11.2 Information on other hazards

· Endocrine disrupting properties

Substance is not listed.

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** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**

· 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

Disposal must comply with the relevant local regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.

· Uncleaned packaging:

· Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

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

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR/RID, IMDG, IATA	UN2585
· 14.2 UN proper shipping name · ADR/RID · IMDG, IATA	2585 ALKYLSULPHONIC ACIDS, SOLID ARYLSULPHONIC ACIDS, SOLID
· 14.3 Transport hazard class(es) · ADR/RID, IMDG, IATA	 · Class 8 Corrosive substances. · Label 8
· 14.4 Packing group · ADR/RID, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · EMS Number: · Segregation groups · Stowage Category	Warning: Corrosive substances. F-A,S-B (SGG1) Acids A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· UN "Model Regulation":	UN 2585 ALKYLSULPHONIC ACIDS, SOLID, 8, III

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture · Directive 2012/18/EU · Named dangerous substances - ANNEX I Substance is not listed.
· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II Substance is not listed.
· REGULATION (EU) 2019/1148 · Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3)) Substance is not listed.
· Annex II - REPORTABLE EXPLOSIVES PRECURSORS Substance is not listed.
· Regulation (EC) No 273/2004 on drug precursors Substance is not listed.

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

Substance is not listed.

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

SECTION 16: Other information

· **Date of previous version:** 13.10.2021

· **Version number of previous version:** 5

· **Abbreviations and acronyms:**

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

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

ICAO: International Civil Aviation Organisation

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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according to 1907/2006/EC, Article 31

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Version number 5 (replaces version 4)

Revision: 23.01.2023

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

1.1 Product identifier

· **Trade name:** DPD-Pulver / DPD Powder

· **Article number:**

860160 (CLDF-Kit 30)

860165 (CLDT-Kit 30)

860170 (CLDF-Kit 360)

860175 (CLDT-Kit 360)

· **CAS number:**

6283-63-2

· **EC number:**

228-500-6

· **Description:** DPD reagent

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

· **Product category:** PC21 Laboratory chemicals

· **Process category:** PROC15 Use as laboratory reagent

· **Application of the substance / the preparation:** Reagent for the chlorine measurements with analyzer

1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

Xylem Analytics Germany GmbH

WTW

Am Achalaich 11

82362 Weilheim

Germany

Tel. +49 881 183-0

· **Further information obtainable from:** E-mail: Info.WTW@xylem.com

1.4 Emergency telephone number:

 Chemtrec: (USA & Canada) 800-424-9300 (International) 001 703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

· **Classification according to Regulation (EC) No 1272/2008:**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

2.2 Label elements:

· **Labelling according to Regulation (EC) No 1272/2008:** The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms:**



GHS07

· **Signal word:** Warning

· **Hazard-determining components of labelling:**

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

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· **Hazard statements:**

H302+H312 Harmful if swallowed or in contact with skin.

· **Precautionary statements:**

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves / protective clothing.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of water.

P321 Specific treatment (see on this label).

P330 Rinse mouth.

P362+P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Labelling of packages where the contents do not exceed 125 ml:**

· **Hazard pictograms:**



GHS07

· **Signal word:** Warning

· **Hazard-determining components of labelling:**

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

· **Hazard statements:** Void

· **2.3 Other hazards** No further relevant information available.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate

· **Identification number(s):**

· **EC number:** 228-500-6

SECTION 4: First aid measures

· **4.1 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.

· **After skin contact:**

Take off immediately all contaminated clothing and wash it before reuse.

If skin irritation continues, consult a doctor.

Wash with plenty of water.

Take off contaminated clothing.

· **After eye contact:**

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

Rinse opened eye for several minutes under running water.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

The product is not flammable. Extinguishing agent to suit environment.

Carbon dioxide (CO₂), foam, extinguishing powder

Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Sulphur oxides (SO_x)

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid the inhalation of dusts.

Avoid contact with skin and eyes.

Wear personal protective equipment (see section 8).

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to section 13.

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 Wear personal protective equipment (see section 8)

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

7.2 Conditions for safe storage, including any incompatibilities

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:

Store tightly sealed and protected from light at temperatures between +15 °C and +25 °C.

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: Not required.

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.

General protective and hygienic measures:

Avoid contact with the eyes and skin.

Take off contaminated clothing and wash it before reuse.

Wash hands before breaks and at the end of work.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Avoid contact with the eyes and skin.

Take off contaminated clothing and wash it before reuse.

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Wash hands before breaks and at the end of work.

· **Respiratory protection:** Required when dusts are formed.

· **Recommended filter device for short term use:** Filter P2

· **Hand protection** Protective gloves

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

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Nitrile rubber, NBR

· **Eye/face protection**

Safety glasses

Not required.

· **Environmental exposure controls**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· **Physical state**

Solid

· **Colour:**

Colourless

· **Odour:**

Odourless

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

184 – 186 °C

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

274 – 275 °C

· **Flammability**

Product is not flammable.

· **Lower and upper explosion limit**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Flash point:**

Not applicable.

· **Ignition temperature:**

540 °C

· **Decomposition temperature:**

Not determined.

· **pH**

2 – 2.2

· **Viscosity:**

· **Kinematic viscosity**

Not applicable.

· **Dynamic:**

Not applicable.

· **Solubility**

· **water at 20 °C:**

ca. 500 g/l

· **Partition coefficient n-octanol/water (log value)**

2.24

· **Vapour pressure:**

Not applicable.

· **Density and/or relative density**

· **Density:**

Not determined.

· **Relative density**

Not determined.

· **Bulk density:**

580 kg/m³

· **Vapour density**

Not applicable.

· **Particle characteristics**

See item 3.

· 9.2 Other information

· **Appearance:**

· **Form:**

Crystalline

· **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.

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· Change in condition	
· Evaporation rate	Not applicable.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases	
in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Strong oxidizing agents.
- **10.6 Hazardous decomposition products:** In case of fire, see section 5.

SECTION 11: Toxicological information

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

- **Acute toxicity** Harmful if swallowed or in contact with skin.

· **LD/LC50 values relevant for classification:**

6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate

Oral LD50 497 mg/kg (Rat) (Sicherheitsdatenblatt Fa. Merck)

· **Skin corrosion/irritation**

Local irritation possible.

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

· **Serious eye damage/irritation**

Irritation possible.

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

· **Respiratory or skin sensitisation**

Sensitization possible in predisposed persons.

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.

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

· **Additional toxicological information:**

· **Acute effects (acute toxicity, irritation and corrosivity):**

The following applies to aromatic amines in general: Systemic effect: methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms. Principal symptom: cyanosis (blue discoloration of the blood).

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**

Substance is not 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**

Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected.

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

· **12.5 Results of PBT and vPvB assessment** Not applicable.

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

· **12.7 Other adverse effects**

· **General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

· **Additional ecological information:**

· **General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

· **Additional ecological information:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Disposal must comply with the relevant local regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.

· **Uncleaned packaging:**

· **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR/RID, ADN, IMDG, IATA**

Void

· **14.2 UN proper shipping name**

· **ADR/RID**

Void

Void

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· ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR/RID, ADN, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR/RID, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable.
· 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

· Directive 2012/18/EU

· **Named dangerous substances - ANNEX I** Substance is not listed.

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

Substance is not listed.

· **REGULATION (EU) 2019/1148**

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

Substance is not listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

Substance is not listed.

· **Regulation (EC) No 273/2004 on drug precursors**

Substance is not listed.

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

Substance is not listed.

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

SECTION 16: Other information

· **Date of previous version:** 13.10.2021

· **Version number of previous version:** 4

· **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

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

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vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4

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