

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

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

1.1 Product identifier

Product name: **DPD No.1**

Catalog number:

00511051, 511050BT, 4511050BT, 511051BT, 4511051BT, 511052BT, 4511052BT, 511000BT, 511001BT, 511002BT, 00511009BT, 00511059BT, 56T000325, 56T000350, SDT106, SDT665, SDT838

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

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 as hazardous according to the GB 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 No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of organic and inorganic compounds

(Contd. on page 2)

GB

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

Product name: DPD No.1

(Contd. of page 1)

SECTION 4: First aid measures

4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritating effects possible
after swallowing:
general feeling of sickness
thirst
sickness
gastric or intestinal trouble
gastric pain
cardiovascular disorders

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 fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Can be released in case of fire:
nitrous gases
Sulphur oxides (SO_x)
Nitrogen oxides (NO_x)
Phosphorus oxides (P_xO_x)
Dipotassium oxide
Sodium oxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- **Advice for non-emergency personnel:** No special measures required.
- **Advice for emergency responders:** Protective equipment: see section 8

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

(Contd. on page 3)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

Product name: DPD No.1

See Section 13 for information on disposal.

(Contd. of page 2)

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Do not eat, drink or smoke when using this product.
Wash hands during breaks and at the end of the work.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.
Protect from humidity and keep away from water.
This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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 that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.
- **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
Safety glasses
use against the effects of fumes / dust
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
- **Hand protection**
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P1
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.

(Contd. on page 4)

GB

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

Product name: DPD No.1

(Contd. of page 3)

· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH (13.5 g/l) at 20°C	6.3
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 Reacts with acids, alkalis and oxidizing agents
 --> forms heat
 Reacts with ammonia (NH₃).
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

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.
- **Information on components:** CAS 6283-63-2: DPD may cause allergic skin reaction
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:** CAS 6283-63-2: Sensitization possible in predisposed persons.
- **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.

(Contd. on page 5)

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

Product name: DPD No.1

(Contd. of page 4)

- **Information on components:**
 - OECD 414: Teratogenicity testing
 - OECD 473: Mutagenicity testing
 - OECD 471, 474, 476, 487: Germ cell mutagenicity testing
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **Other information** No further relevant information available.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Bacterial toxicity:** sulphates toxic > 2.5 g/l
- **Other information:**

Toxic for fish:
Sulphates > 7 g/l
- **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**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.
- **Water hazard:**

Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**

Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**

16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|---|------|
| <ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR, IMDG, IATA | Void |

(Contd. on page 6)

GB

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

Product name: DPD No.1

(Contd. of page 5)

· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR, 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.

* SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **Information about limitation of use:** Not required.

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

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 12.06.2024

Version number 9 (replaces version 8)

Revision: 12.06.2024

Product name: DPD No.1

(Contd. of page 6)

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

· **Sources** Data arise from safety data sheets, reference works and literature.

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

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

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

1.1 Product identifier**Product name:** DPD No. 3**Catalog number:** 00511081, 511080BT, 511081BT, 511082BT, 511540BT, 00511549BT, 00511089BT, 56T001350, SDT107**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

GHS08 health hazard

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms

GHS08

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

potassium iodide

Hazard statements

H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P264 Wash hands thoroughly after handling.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 1)

P314 Get medical advice/attention if you feel unwell.

2.3 Other hazards

The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Description:** Mixture of inorganic compounds.**Dangerous components:**

CAS: 7681-11-0 EINECS: 231-659-4 Reg.nr.: 01-2119966161-40-XXXX	potassium iodide	 STOT RE 1, H372	10–20%
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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** Instantly remove any clothing soiled by the product.**After inhalation** Supply fresh air; consult doctor in case of symptoms.**After skin contact** Instantly wash with water and soap and rinse thoroughly.**After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after swallowing and inhalation:

absorption

after absorption of large amounts:

thirst

sickness

vomiting

diarrhoea

gastric pain

drop in blood pressure

cardiovascular disorders

weakness

headache

disorder of electrolyte balance

Danger

Danger of disturbed cardiac rhythm.

Danger of impaired breathing.

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

Symptoms of poisoning may even occur after several hours.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents** Use fire fighting measures that suit the environment.**5.2 Special hazards arising from the substance or mixture**

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 2)

Can be released in case of fire:

Hydrogen chloride (HCl)

Dipotassium oxide

Hydrogen iodide (HI)

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders: Protective equipment: see section 8**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling:** Provide suction extractors if dust is formed.**Hygiene measures:**

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

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

7.2 Conditions for safe storage, including any incompatibilities**Requirements to be met by storerooms and containers:** Store in cool location.**Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidising agents.

Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Store in cool, dry conditions in well sealed containers.

Protect from the effects of light.

Protect from humidity and keep away from water.

This product is hygroscopic.

Recommended storage temperature: 20°C +/- 5°C**7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Components 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.

DNELs

Derived No Effect Level (DNEL)

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 3)

CAS: 7681-11-0 potassium iodide		
Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects) 0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
Dermal	DNEL	1 mg/kg /bw/d (Worker / long-term /systemic effects) 1 mg/kg /bw/d (Consumer / long-term / systemic effects)
Inhalative	DNEL	0.07 mg/m ³ (Worker / long-term /systemic effects) 0.035 mg/m ³ (Consumer / long-term / systemic effects)

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide	
PNEC	0.007 mg/l (Fresh water)
PNEC	0.075 mg/kg (Aquatic intermittent release) 0.007 mg/kg /sediment (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· Eye/face protection

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

· Hand protection

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

· Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

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

· Other skin protection (body protection):

Protective work clothing.

· Breathing equipment:

Use breathing protection against the effects of fumes/dust/aerosol.

· Recommended filter device for short term use:

Filter P2

· Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Solid.
· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 4)

· pH (13 g/l) at 20°C	6.3
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density at 20°C:	2.16 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 - Reacts with peroxides
 - Reacts with halogenated compounds
 - Reacts with acids
 - Reacts with alkaline metals
 - Reacts with oxidizing agents
 - > forms heat
- **10.4 Conditions to avoid** To avoid thermal decomposition do not overheat.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

CAS: 7681-11-0 potassium iodide		
Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human)
		organ: Thyroid

- **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.
- **Information on components:** The following applies to iodides in general: Sensitisation possible at predisposed persons.
- **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.
- **Information on components:**
 - OECD 414: Teratogenicity testing
 - OECD 473: Mutagenicity testing
 - OECD 471, 474, 476, 487: Germ cell mutagenicity testing

(Contd. on page 6)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 5)

CAS: 7681-11-0 potassium iodide

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test)
	Mouse (lymphoma L5178Y cells)

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure**
Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on likely routes of exposure

"Main routes of exposure:

At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.

Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.

Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.

Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

· Additional toxicological information:

CAS: 7681-11-0 potassium iodide

(source: GESTIS)

Main Toxic Effects:

Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.

Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Further Information (GESTIS, Merck):

Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.

Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.

Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **Other information**
Other dangerous properties can not be excluded.
According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 7681-11-0 potassium iodide

EC50	7.5 mg/l/48h (Daphnia magna) (OECD 202)
	Merck
LC50	3780 mg/l/96h (rainbow trout) (OECD 203)
	Merck

- **12.2 Persistence and degradability**
- **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 6)

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

· **12.7 Other adverse effects** Avoid transfer into the environment.

Water hazard:

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

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
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Uncleaned packagings:

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

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN number or ID number

· **ADR, IMDG, IATA** Void

14.2 UN proper shipping name

· **ADR, IMDG, IATA** Void

14.3 Transport hazard class(es)

· **ADR, 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.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Poisons Act UK****Regulated explosives precursors**

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

Reportable explosives precursors

None of the ingredients is listed.

Reportable poisons

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 7)

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)
None of the ingredients is listed.
· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:
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.
· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
None of the ingredients is listed.
· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
None of the ingredients is listed.
· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H372 Causes damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

ICAO: International Civil Aviation Organisation

EC50: effective concentration, 50 percent (in vivo)

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

(Contd. on page 9)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.05.2024

Version number 8 (replaces version 7)

Revision: 13.05.2024

Product name: DPD No. 3

(Contd. of page 8)

· Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

· * Data compared to the previous version altered.

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

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

1.1 Product identifier

Product name: **DPD No. 4**

Catalog number:

00511221, 511222BT, 511221BT, 511220BT, 00511560BT, 00511561BT, 00511562BT, 00511229BT, 56T001625, 56T001650, SDT248

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS08

Signal word Danger

Hazard-determining components of labelling:

potassium iodide

Hazard statements

H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 1)

Precautionary statements

P264 Wash hands thoroughly after handling.
P314 Get medical advice/attention if you feel unwell.

2.3 Other hazards

The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of organic and inorganic compounds

Dangerous components:

CAS: 7681-11-0 EINECS: 231-659-4 Reg.nr.: 01-2119966161-40-XXXX	potassium iodide	 STOT RE 1, H372	10–20%
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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 Instantly remove any clothing soiled by the product.

After inhalation Supply fresh air.

After skin contact Instantly wash with water and soap and rinse thoroughly.

After eye contact

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritating effects possible

after inhalation:

mucous membrane irritation

coughing

after swallowing of large amounts:

general feeling of sickness

gastric pain

sickness

thirst

diarrhoea

absorption

after absorption of large amounts:

vomiting

drop in blood pressure

cardiovascular disorders

headache

weakness

Danger Danger of impaired breathing.

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

Symptoms of poisoning may even occur after several hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents Use fire fighting measures that suit the environment.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 2)

5.2 Special hazards arising from the substance or mixture

combustible

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

nitrous gases

Nitrogen oxides (NO_x)Sulphur oxides (SO_x)Phosphorus oxides (P_xO_x)

Dipotassium oxide

Sodium oxide

Hydrogen iodide (HI)

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders: Protective equipment: see section 8**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling:** Provide suction extractors if dust is formed.**Hygiene measures:**

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

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

7.2 Conditions for safe storage, including any incompatibilities**Requirements to be met by storerooms and containers:** Store in cool location.**Information about storage in one common storage facility:** Store away from oxidising agents.**Further information about storage conditions:**

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Store in cool, dry conditions in well sealed containers.

Protect from the effects of light.

Protect from humidity and keep away from water.

This product is hygroscopic.

Recommended storage temperature: 20°C +/- 5°C**7.3 Specific end use(s)** No further relevant information available.

GB

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 3)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components 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.

DNELs

Derived No Effect Level (DNEL)

CAS: 7681-11-0 potassium iodide

Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects) 0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
Dermal	DNEL	1 mg/kg /bw/d (Worker / long-term /systemic effects) 1 mg/kg /bw/d (Consumer / long-term / systemic effects)
Inhalative	DNEL	0.07 mg/m ³ (Worker / long-term /systemic effects) 0.035 mg/m ³ (Consumer / long-term / systemic effects)

PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide

PNEC	0.007 mg/l (Fresh water)
PNEC	0.075 mg/kg (Aquatic intermittent release) 0.007 mg/kg /sediment (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.

Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

Eye/face protection

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

Hand protection

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

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

Other skin protection (body protection):

Protective work clothing.

Breathing equipment:

Use breathing protection against the effects of fumes/dust/aerosol.

Recommended filter device for short term use:

Filter P2

Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

· Physical state	Solid.
· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 4)

· Flammability	combustible
· Explosive properties:	The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion
· Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not applicable (solid).
· Flash point:	Not applicable (solid).
· Auto-ignition temperature:	Not applicable (solid).
· Decomposition temperature:	Not determined.
· pH (11 g/l) at 20°C	6.2
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Dust can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
--> forms heat
Reacts with ammonia (NH₃).
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

CAS: 7681-11-0 potassium iodide

Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human)
		organ: Thyroid

- **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.
- **Information on components:** CAS 6283-63-2: DPD may cause allergic skin reaction
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:**
CAS 6283-63-2: Sensitization possible in predisposed persons.
The following applies to iodides in general: Sensitization possible at predisposed persons.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 5)

- **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.

- **Information on components:**

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-11-0 potassium iodide

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

OECD 476 (negative) (In Vitro Mammalian Cell Gene Mutation Test)
Mouse (lymphoma L5178Y cells)

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

- **STOT (specific target organ toxicity) -repeated exposure**

Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

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

- **Information on likely routes of exposure**

"Main routes of exposure:

At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.

Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.

Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.

Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

- **Additional toxicological information:**

CAS: 7681-11-0 potassium iodide

(source: GESTIS)

Main Toxic Effects:

Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.

Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Further Information (GESTIS, Merck):

Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.

Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.

Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

- **11.2 Information on other hazards**

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

- **Other information**

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

CAS: 7681-11-0 potassium iodideEC50 7.5 mg/l/48h (Daphnia magna) (OECD 202)
MerckLC50 3780 mg/l/96h (rainbow trout) (OECD 203)
Merck

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 6)

- **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**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.
- **Water hazard:**
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|--|--|
| · 14.1 UN number or ID number
· ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, 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. |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act UK**

· Regulated explosives precursors

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

(Contd. of page 7)

· Reportable poisons
None of the ingredients is listed.
· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated
· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)
None of the ingredients is listed.
· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:
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.
· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
None of the ingredients is listed.
· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
None of the ingredients is listed.
· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
None of the ingredients is listed.
· Substances of very high concern (SVHC) according to REACH, Article 57 This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· Substances of very high concern (SVHC) according to UK REACH This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· Directive 2012/18/EU (SEVESO III):
· Named dangerous substances - ANNEX I None of the ingredients is listed.
· Information about limitation of use: Employment restrictions concerning young persons must be observed (94/33/EC).
· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H372 Causes damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

(Contd. on page 9)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.05.2024

Version number 8 (replaces version 7)

Revision: 14.05.2024

Product name: DPD No. 4

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

(Contd. of page 8)

Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European Chemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

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

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

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

1.1 Product identifier**Product name:** DPD No. 3 EVO**Catalog number:** 00511421, 00511429BT, 00511399BT, 511420BT, 511421BT, 511422BT, 511390BT, 511391BT, 511392BT**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

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 as hazardous according to the GB 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** No further relevant information available.**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures**Description:** Mixture of inorganic compounds.**Dangerous components:** Void

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 EVO

(Contd. of page 1)

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information** Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

· **After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed:**

absorption

after inhalation:

mucosal irritations, cough, shortness of breath

after swallowing of large amounts:

thirst

irritations

sickness

vomiting

cramps

· **4.3 Indication of any immediate medical attention and special treatment needed:**

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

· 5.2 Special hazards arising from the substance or mixture

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Hydrogen chloride (HCl)

Sodium oxide

· 5.3 Advice for firefighters

· **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

· **Advice for non-emergency personnel:** No special measures required.

· **Advice for emergency responders:** Protective equipment: see section 8

· **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

· 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

— GB —
(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 EVO

(Contd. of page 2)

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.
Protect from humidity and keep away from water.
This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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 that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.
- **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
Safety glasses
use against the effects of fumes / dust
- **Hand protection**
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.
- **Form:** Tablets
- **Colour:** White
- **Odour:** Odourless
- **Odour threshold:** Not applicable.

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 EVO

(Contd. of page 3)

· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH (12 g/l) at 20°C	7
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Readily soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 Reacts with acids, alkalis and oxidizing agents
 Reacts with alkaline metals
 --> forms heat
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:		
CAS: 7647-14-5 sodium chloride		
Oral	LD50	3000 mg/kg (rat) (RTCES)
	LD50.	12 mg/kg (child)
Dermal	LD50.	>10000 mg/kg (rabbit) (RTECS)

- **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.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 EVO

(Contd. of page 4)

· Information on components:		
CAS: 7647-14-5 sodium chloride		
Irritation of skin	OECD 404	(rabbit: no irritation) (ECHA)
Irritation of eyes	OECD 405	(rabbit: no irritation)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:** The following applies to iodides in general: Sensitation possible at predisposed persons.
- **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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
 iodide: chronic hypothyroidism
 Iodine salts can cause birth defects, illness and death of a fetus. (GESTIS)
 When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:	
CAS: 7647-14-5 sodium chloride	
EC50	1000 mg/l/48h (Daphnia magna) (IUCLID)
LC50	7650 mg/l/96h (fathead minnow) (IUCLID)

- **12.2 Persistence and degradability** .
- **Other information:**
 Mixture of inorganic compounds.
 Methods for the determination of biodegradability are not applicable to inorganic substances.
- **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**
 This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects** Avoid transfer into the environment.
- **Water hazard:**
 Do not allow product to reach ground water, water bodies or sewage system.
 Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Disposal must be made according to official regulations.
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

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

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 EVO

(Contd. of page 5)

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR, 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.

SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 EVO

(Contd. of page 6)

- **Substances of very high concern (SVHC) according to UK REACH**
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
- **Directive 2012/18/EU (SEVESO III):**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Information about limitation of use:** Not required.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Training hints** Provide adequate information, instruction and training for operators.
- **Abbreviations and acronyms:**
 - OECD: Organisation for Economic Co-operation and Development
 - STOT: specific target organ toxicity
 - SE: single exposure
 - RE: repeated exposure
 - EC50: half maximal effective concentration
 - IC50: half maximal inhibitory concentration
 - NOEL or NOEC: No Observed Effect Level or Concentration
 - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - 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
 - SVHC: Substances of Very High Concern
 - vPvB: very Persistent and very Bioaccumulative
- **Sources** Data arise from safety data sheets, reference works and literature.
- *** Data compared to the previous version altered.**

— GB —

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

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

1.1 Product identifier

Product name: **DPD No. 1 HR**

Catalog number:

00511501, 511500BT, 511501BT, SDT824, 00511509BT, 4511500BT, 4511501BT, 4511502BT, 511501-BU, 511502BT

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

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 as hazardous according to the GB 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.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of organic and inorganic compounds

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 1)

· Dangerous components:		
CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1,4-diammonium sulphate (1:1) ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5–5%
CAS: 77-92-9 EINECS: 201-069-1 Index No: 607-750-00-3 Reg.nr.: 01-2119457026-42-XXXX	citric acid ⚠ Eye Irrit. 2, H319; STOT SE 3, H335	0.1–1%

· **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** Instantly remove any clothing soiled by the product.· **After inhalation** Supply fresh air.· **After skin contact** Instantly wash with water and soap and rinse thoroughly.· **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

· **After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed:**

irritating effects possible

allergic reactions

after swallowing of large amounts:

general feeling of sickness

thirst

sickness

vomiting

diarrhoea

after absorption:

methaemoglobinaemia

gastric pain

· **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 fighting measures that suit the environment.

Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder· **For safety reasons unsuitable extinguishing agents**

For this substance / mixture no limitations of extinguishing agents are given.

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

combustible

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Sulphur oxides (SO_x)

nitrous gases

Nitrogen oxides (NO_x)Phosphorus oxides (P_xO_x)

Dipotassium oxide

· **5.3 Advice for firefighters**· **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

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

(Contd. on page 3)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

Ambient fire may liberate hazardous vapours.

(Contd. of page 2)

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:** Wear protective equipment. Keep unprotected persons away.
- **Advice for emergency responders:** Protective equipment: see section 8
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
 Ensure adequate ventilation.
 Collect mechanically.
 Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
 See Section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
 The usual precautionary measures should be adhered to general rules for handling chemicals.
 Do not eat, drink or smoke when using this product.
 Wash hands during breaks and at the end of the work.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
 Protect from heat and direct sunlight.
 Protect from the effects of light.
 Store under dry conditions.
 Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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 that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
 Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 See item 7.
- **Individual protection measures, such as personal protective equipment**
 Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
 Safety glasses
 use against the effects of fumes / dust
 Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
- **Hand protection**
 Preventive skin protection by use of skin-protecting agents is recommended.
 After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 nitrile rubber, NBR
 Recommended thickness of the material: ≥ 0.11 mm

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 3)

- **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P1
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
 - **Physical state** Solid.
 - **Form:** Tablets
 - **Colour:** White
 - **Odour:** Odourless
 - **Odour threshold:** Not applicable.
 - **Melting point/Freezing point:** Not determined.
 - **Boiling point or initial boiling point and boiling range** Not determined.
 - **Flammability** combustible
 - **Explosive properties:** The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion
The following applies in general to flammable organic substances / preparations: Dust explosion possible if in powder or granular form (fine distribution), mixed with air.
 - **Lower and upper explosion limit**
 - Lower:** Not determined.
 - Upper:** Not determined.
 - **Flash point:** Not determined.
 - **Auto-ignition temperature:** Not applicable (solid).
 - **Decomposition temperature:** Not determined.
 - **pH (10.5 g/l) at 20°C** 6.3
 - **Kinematic viscosity** Not applicable (solid).
 - **Solubility**
 - **Water:** Soluble
 - **Partition coefficient n-octanol/water (log value)** Not applicable (mixture).
 - **Vapour pressure:** Not applicable.
 - **Density and/or relative density**
 - **Density:** Not determined.
 - **Relative density:** Not determined.
 - **Relative gas density** Not applicable (solid).
 - **Particle characteristics** Not determined.

· 9.2 Other information

- **Information with regard to physical hazard classes**
- **Corrosive to metals** Void
- **Other safety characteristics**
- **Oxidising properties:** none
- **Additional information**
- **Solids content:** 100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Dust can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
--> forms heat
Reacts with certain metals
Citric acid: Incompatible with bases, strong oxidising agents, amines. Contact with metal nitrates causes explosion hazard.
Attacks aluminium, copper, zinc and their alloys - in case of moisture.
Reacts with ammonia (NH₃).

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 4)

- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** aluminium, copper, zinc, metal ions
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

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

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

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

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)

CAS: 77-92-9 citric acid

Oral	LD50	3000 mg/kg (rat) (IUCLID)
Dermal	LD50	>2000 mg/kg (rat) (limit test: there were no deaths)

- **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.
- **Information on components:**
 CAS 6283-63-2: DPD may cause allergic skin reaction
 Citric acid: A single drop of a 2% or 5% solution in water causes little or no irritation.
 A 0.5% solution held in contact with the eye causes irreversible tissue damage to the cornea.
 Citric Acid caused mild irritation when 500 mg was tested on rabbit skin in a 24-hour test.
 (CHEMINFO, Canadian Centre for Occupational Health and Safety)

CAS: 77-92-9 citric acid

Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 492	(rabbit: severe irritations)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:**
 CAS 6283-63-2: Sensitization possible in predisposed persons.

CAS: 77-92-9 citric acid

Sensitisation	OECD 406	(guinea pig: negative) (EPA OPP 81-6: Guinea pig maximisation test)
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- **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.

- **Information on components:**
 OECD 414: Teratogenicity testing
 OECD 473: Mutagenicity testing
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 77-92-9 citric acid

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
----------	--

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Information on likely routes of exposure**

CAS 6283-63-2 4-Amino-N,N-diethylaniline sulfate:

In analogy to CAS 93-05-0 Amino-N,N-diethylaniline at workplaces the main route of exposure is via the respiratory tract and the skin.

"The high systemic potential of Amino-N,N-diethylaniline observed in animal experiments after oral application of relatively low doses permits the assumption of an effective resorption via the digestive tract that must also be assumed for humans." [GESTIS]
 Under workplace conditions, inhalative exposure is the main route of exposure of citric acid. Inhalative exposure is possible in the form of dust or aerosols of aqueous solutions, although the warning irritant effect means that inhalation of very high concentrations is only to be expected accidentally.

Irrespective of this, citric acid is mainly ingested orally with food. [GESTIS]

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 5)

Additional toxicological information:	
CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)	
.	(source: GESTIS) Main toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline: Acute: Irritative effects to the mucosae and the skin, sensitising effects; Chronic: Skin diseases. Only insufficient information available on the systemic effects.
CAS: 77-92-9 citric acid	
.	(source: GESTIS) Main toxic effects: Acute: Irritant effect on the eyes and upper respiratory tract; no evidence of systemic toxic effects under occupationally relevant exposure conditions chronic: irritative effects on mucous membranes and skin. Enamel damage, dermatitis (Merck) Further information: Depending on the pH value, dust or concentrated aqueous solutions are highly irritating to corrosive to the eye.
11.2 Information on other hazards	
Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.	
Other information When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.	

SECTION 12: Ecological information

12.1 Toxicity	
Aquatic toxicity:	
CAS: 77-92-9 citric acid	
EC50	~120 mg/l (Daphnia magna) (72 h) (IUCLID)
EC5	485 mg/l (Entosiphon sulcatum) (72h) (MERCK)
LC50	440–760 mg/l/96h (gold orfe) (IUCLID)
Bacterial toxicity: sulphates toxic > 2.5 g/l	
CAS: 77-92-9 citric acid	
EC5	>10000 mg/l (Pseudomonas putida) (16h (Lit.))
Other information: Toxic for fish: Sulphates > 7 g/l	
12.2 Persistence and degradability	
CAS: 77-92-9 citric acid	
OECD 301 B	97 % / 28 d (readily biodegradable) (CO2 Evolution Test)
OECD 302 B	98 % / 2 d (readily eliminated from water) (Zahn-Wellens / EMPA Test)
12.3 Bioaccumulative potential Pow = n-octanol/wasser partition coefficient log Pow 1-3 = Not worth-mentioning accumulating in organisms. log Pow < 1 = Does not accumulate in organisms.	
CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)	
log Pow	2.24 (.) (calculated)
CAS: 77-92-9 citric acid	
log Pow	-1.72 (.) (OECD 117, 20°C)
12.4 Mobility in soil No further relevant information available.	

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 6)

· 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.

· Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods**· Recommendation**

Disposal must be made according to official regulations.

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

· European waste catalogue

16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
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· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA	Void
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· 14.2 UN proper shipping name

· ADR, IMDG, IATA	Void
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· 14.3 Transport hazard class(es)

· ADR, IMDG, IATA	Void
· Class	

· 14.4 Packing group

· ADR, IMDG, IATA	Void
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· 14.5 Environmental hazards:	Not applicable.
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· 14.6 Special precautions for user	Not applicable.
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· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
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· Transport/Additional information:	Not dangerous according to the above specifications.
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SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**· Poisons Act UK****· Regulated explosives precursors**

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 7)

- **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

- **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

- **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

- **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

- **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

- **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

- **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

- **Directive 2012/18/EU (SEVESO III):**

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

- **Information about limitation of use:** Not required.

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Training hints** Provide adequate information, instruction and training for operators.

- **Relevant phrases**

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

- **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

(Contd. on page 9)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 59 (replaces version 58)

Revision: 15.05.2024

Product name: DPD No. 1 HR

(Contd. of page 8)

ATE: Acute toxicity estimate values

Acute Tox. 4: Acute toxicity – Category 4

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

Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

IUCLID (International Uniform Chemical Information Database)

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

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

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

1.1 Product identifier**Product name:** DPD No. 3 HR**Catalog number:** 00511591, 511590BT, 511591BT, 511592BT, 00511599BT, 4511590BT, 4511591BT, 4511592BT, SDT861**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

GHS08 health hazard

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms

GHS08

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

potassium iodide

Hazard statements

H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P264 Wash hands thoroughly after handling.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 1)

P314 Get medical advice/attention if you feel unwell.

2.3 Other hazards

The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Description:** Mixture of inorganic compounds.**Dangerous components:**

CAS: 7681-11-0	potassium iodide	 STOT RE 1, H372	20–30%
EINECS: 231-659-4			
Reg.nr.: 01-2119966161-40-XXXX			

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** Instantly remove any clothing soiled by the product.**After inhalation** Supply fresh air; consult doctor in case of symptoms.**After skin contact** Instantly wash with water and soap and rinse thoroughly.**After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after swallowing:

thirst

sickness

vomiting

after swallowing and inhalation:

headache

gastric pain

diarrhoea

drop in blood pressure

cardiovascular disorders

weakness

Danger

Danger of disturbed cardiac rhythm.

Danger of impaired breathing.

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

Symptoms of poisoning may even occur after several hours.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents** Use fire fighting measures that suit the environment.**5.2 Special hazards arising from the substance or mixture**

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Hydrogen chloride (HCl)

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 2)

Dipotassium oxide

Hydrogen iodide (HI)

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders: Protective equipment: see section 8**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling:** Provide suction extractors if dust is formed.**Hygiene measures:**

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

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

7.2 Conditions for safe storage, including any incompatibilities**Requirements to be met by storerooms and containers:** Store in cool location.**Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidising agents.

Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Store in cool, dry conditions in well sealed containers.

Protect from the effects of light.

Protect from humidity and keep away from water.

This product is hygroscopic.

Recommended storage temperature: 20°C +/- 5°C**7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Components 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.

DNELs

Derived No Effect Level (DNEL)

CAS: 7681-11-0 potassium iodide

Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects)
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(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 3)

Dermal	DNEL	0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
		1 mg/kg /bw/d (Worker / long-term /systemic effects)
Inhalative	DNEL	1 mg/kg /bw/d (Consumer / long-term / systemic effects)
		0.07 mg/m ³ (Worker / long-term /systemic effects)
		0.035 mg/m ³ (Consumer / long-term / systemic effects)

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide

PNEC 0.007 mg/l (Fresh water)

PNEC 0.075 mg/kg (Aquatic intermittent release)

0.007 mg/kg /sediment (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· Eye/face protection

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

· Hand protection

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

· Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

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

· Other skin protection (body protection):

Protective work clothing.

· Breathing equipment:

Use breathing protection against the effects of fumes/dust/aerosol.

· Recommended filter device for short term use:

Filter P2

· Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Solid.
· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable (solid).
· Decomposition temperature:	Not applicable.
· pH (13 g/l) at 20°C	6.3
· Kinematic viscosity	Not applicable (solid).

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 4)

· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 - Reacts with alkaline metals
 - Reacts with peroxides
 - Reacts with halogenated compounds
 - Reacts with acids
 - Reacts with oxidizing agents
 - > forms heat
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

CAS: 7681-11-0 potassium iodide

Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid

- **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.
- **Information on components:** The following applies to iodides in general: Sensitation possible at predisposed persons.
- **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.
- **Information on components:**
 - OECD 414: Teratogenicity testing
 - OECD 473: Mutagenicity testing
 - OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-11-0 potassium iodide

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
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(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 5)

OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) Mouse (lymphoma L5178Y cells)
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· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure**

Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

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

· **Information on likely routes of exposure**

"Main routes of exposure:

At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.

Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.

Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.

Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

· **Additional toxicological information:**

CAS: 7681-11-0 potassium iodide

· (source: GESTIS)

Main Toxic Effects:

Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.

Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Further Information (GESTIS, Merck):

Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.

Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.

Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

· **11.2 Information on other hazards**

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

· **Other information**

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

CAS: 7681-11-0 potassium iodide

EC50	7.5 mg/l/48h (Daphnia magna) (OECD 202) Merck
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LC50	3780 mg/l/96h (rainbow trout) (OECD 203) Merck
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· **12.2 Persistence and degradability**

· **Other information:**

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

· **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**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

· **12.7 Other adverse effects** Avoid transfer into the environment.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 6)

· Water hazard:

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
 Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods**· Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
 Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
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· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number**· ADR, IMDG, IATA** Void**· 14.2 UN proper shipping name****· ADR, IMDG, IATA** Void**· 14.3 Transport hazard class(es)****· ADR, IMDG, IATA****· Class** Void**· 14.4 Packing group****· ADR, 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.

* SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**· Poisons Act UK****· Regulated explosives precursors**

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated**· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.05.2024

Version number 40 (replaces version 39)

Revision: 15.05.2024

Product name: DPD No. 3 HR

(Contd. of page 7)

· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:
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.
· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
None of the ingredients is listed.
· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
None of the ingredients is listed.
· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
None of the ingredients is listed.
· Substances of very high concern (SVHC) according to REACH, Article 57
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· Substances of very high concern (SVHC) according to UK REACH
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· Directive 2012/18/EU (SEVESO III):
· Named dangerous substances - ANNEX I None of the ingredients is listed.
· Information about limitation of use: Employment restrictions concerning young persons must be observed (94/33/EC).
· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H372 Causes damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· **Sources**

ECHA: European Chemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

Data arise from safety data sheets, reference works and literature.

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

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

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

1.1 Product identifier**Product name:** DPD No. 3 HR EVO**Catalog number:** 00511921, 00511929BT, 511920BT, 511921BT, 511922BT**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

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 as hazardous according to the GB 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** No further relevant information available.**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures**Description:** Mixture of organic and inorganic compounds**Dangerous components:** Void

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 HR EVO

(Contd. of page 1)

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information** Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

· **After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed:**

absorption

after inhalation:

mucosal irritations, cough, shortness of breath

after swallowing of large amounts:

thirst

irritations

sickness

vomiting

disorder of electrolyte balance

· **4.3 Indication of any immediate medical attention and special treatment needed:**

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

· 5.2 Special hazards arising from the substance or mixture

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Hydrogen chloride (HCl)

Sodium oxide

· 5.3 Advice for firefighters

· **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

· **Advice for non-emergency personnel:** No special measures required.

· **Advice for emergency responders:** Protective equipment: see section 8

· **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

· 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

GB
(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 HR EVO

(Contd. of page 2)

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.
Protect from humidity and keep away from water.
This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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 that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.
- **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
Safety glasses
use against the effects of fumes / dust
- **Hand protection**
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.
- **Form:** Tablets
- **Colour:** White
- **Odour:** Odourless
- **Odour threshold:** Not applicable.

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 HR EVO

(Contd. of page 3)

· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable (solid).
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH (12 g/l) at 20°C	7
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100.0 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
Reacts with alkaline metals
--> forms heat
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

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.
- **Information on components:** The following applies to iodides in general: Sensitisation possible at predisposed persons.
- **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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 HR EVO

(Contd. of page 4)

Additional toxicological information:

iodide: chronic hypothyroidism

Iodine salts can cause birth defects, illness and death of a fetus. (GESTIS)

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

11.2 Information on other hazards**Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.**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**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.

Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Recommendation**

Disposal must be made according to official regulations.

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

European waste catalogue

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

Uncleaned packagings:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleaning agent:** Water, if necessary with cleaning agent.**SECTION 14: Transport information****14.1 UN number or ID number****ADR, IMDG, IATA** Void**14.2 UN proper shipping name****ADR, IMDG, IATA** Void**14.3 Transport hazard class(es)****ADR, IMDG, IATA**
Class Void**14.4 Packing group****ADR, 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.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 HR EVO

(Contd. of page 5)

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

* SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **Information about limitation of use:** Not required.

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

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

(Contd. on page 7)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 3 HR EVO

(Contd. of page 6)

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

· **Sources** Data arise from safety data sheets, reference works and literature.· *** Data compared to the previous version altered.**

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

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

1.1 Product identifier**Product name:** DPD No. 4 EVO**Catalog number:**

00511971, 00511979BT, 00511289BT, 511970BT, 511971BT, 511972BT, 511280BT, 511281BT, 511282BT, 511283BT

1.2 Relevant identified uses of the substance or mixture and uses advised against**Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.comphone: +49 (0)231 94510-0
e-mail: sales@lovibond.comThe Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdomphone : +44 1980 664800
e-mail: SDS@lovibond.uk**Informing department:**e-mail: sds@lovibond.com
Product Safety Department**1.4 Emergency telephone number:**+44 1235 239670
Languages: English

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 as hazardous according to the GB 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** No further relevant information available.**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures**Description:** Mixture of organic and inorganic compounds

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 4 EVO

(Contd. of page 1)

SECTION 4: First aid measures

4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

absorption
irritating effects possible
after swallowing of large amounts:
thirst
sickness
vomiting
gastric pain
diarrhoea
general feeling of sickness

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is in tablet form not flammable.
mixture with combustible ingredients
Formation of toxic gases is possible during heating or in case of fire.
Can be released in case of fire:

nitrous gases
Sulphur oxides (SO_x)
Nitrogen oxides (NO_x)
Phosphorus oxides (P_xO_x)
Dipotassium oxide
Sodium oxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- **Advice for non-emergency personnel:** No special measures required.
- **Advice for emergency responders:** Protective equipment: see section 8

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 4 EVO

(Contd. of page 2)

6.4 Reference to other sections

- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

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

- Advice on safe handling:** No special precautions necessary if used correctly.

Hygiene measures:

- The usual precautionary measures should be adhered to general rules for handling chemicals.
- Wash hands during breaks and at the end of the work.
- Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements to be met by storerooms and containers:** Store in cool location.
- Information about storage in one common storage facility:** Store away from oxidising agents.
- Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from the effects of light.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
- Recommended storage temperature:** 20°C +/- 5°C

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

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Components 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 that were valid during the compilation were used as basis.

8.2 Exposure controls**Engineering measures:**

- Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
- See item 7.

Individual protection measures, such as personal protective equipment

- Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

Eye/face protection

- Safety glasses
- use against the effects of fumes / dust

Hand protection

- Preventive skin protection by use of skin-protecting agents is recommended.
- After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

- nitrile rubber, NBR
- Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

- Value for the permeation: Level = 1 (< 10 min)
- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Other skin protection (body protection): Protective work clothing.**Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.**Recommended filter device for short term use:** Filter P2

- Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

- Physical state** Solid.

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 4 EVO

(Contd. of page 3)

· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	mixture with combustible ingredients
· Explosive properties:	The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion
· Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not applicable (solid).
· Flash point:	Not determined.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH (10 g/l) at 20°C	6.3
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100.0 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Dust can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
Reacts with ammonia (NH₃).
--> forms heat
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

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.
- **Information on components:** CAS 6283-63-2: DPD may cause allergic skin reaction
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:**
CAS 6283-63-2: Sensitization possible in predisposed persons.
The following applies to iodides in general: Sensitization possible at predisposed persons.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 4 EVO

(Contd. of page 4)

- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
 iodide: chronic hypothyroidism
 Iodine salts can cause birth defects, illness and death of a fetus. (GESTIS)
 When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

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**
 This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
 Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.
- **Water hazard:**
 Do not allow product to reach ground water, water bodies or sewage system.
 Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Disposal must be made according to official regulations.
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|--|------|
| · 14.1 UN number or ID number | Void |
| · ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | Void |
| · ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| · Class | Void |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | Void |

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 4 EVO

(Contd. of page 5)

· 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.

SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **Information about limitation of use:** Not required.

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

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

(Contd. on page 7)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 2 (replaces version 1)

Revision: 15.11.2023

Product name: DPD No. 4 EVO

(Contd. of page 6)

· **Training hints** Provide adequate information, instruction and training for operators.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

· **Sources** Data arise from safety data sheets, reference works and literature.

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

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

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

1.1 Product identifier**Product name:** DPD No. 3 High Calcium**Catalog number:** 00515731, 515730BT, 515731BT, 515732BT, 4515730BT, 4515731BT, 4515732BT, 00515739BT**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

GHS08 health hazard

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms

GHS08

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

potassium iodide

Hazard statements

H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P264 Wash hands thoroughly after handling.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 1)

P314 Get medical advice/attention if you feel unwell.

2.3 Other hazards

The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Description:** Mixture of organic and inorganic compounds**Dangerous components:**

CAS: 7681-11-0	potassium iodide	 STOT RE 1, H372	10–20%
EINECS: 231-659-4			
Reg.nr.: 01-2119966161-40-XXXX			

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** Instantly remove any clothing soiled by the product.**After inhalation** Supply fresh air; consult doctor in case of symptoms.**After skin contact** Instantly wash with water and soap and rinse thoroughly.**After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after swallowing:

thirst

sickness

vomiting

after swallowing and inhalation:

absorption

after absorption of large amounts:

breathing difficulty

headache

cramps

gastric pain

diarrhoea

drop in blood pressure

cardiovascular disorders

weakness

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

Symptoms of poisoning may even occur after several hours.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents** Use fire fighting measures that suit the environment.**5.2 Special hazards arising from the substance or mixture**

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 2)

Hydrogen chloride (HCl)

Dipotassium oxide

Sodium oxide

Hydrogen iodide (HI)

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders: Protective equipment: see section 8**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling:** Provide suction extractors if dust is formed.**Hygiene measures:**

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

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

7.2 Conditions for safe storage, including any incompatibilities**Requirements to be met by storerooms and containers:** Store in cool location.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:**

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Store in cool, dry conditions in well sealed containers.

Protect from the effects of light.

Protect from humidity and keep away from water.

This product is hygroscopic.

Recommended storage temperature: 20°C +/- 5°C**7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Components 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.

DNELs

Derived No Effect Level (DNEL)

CAS: 7681-11-0 potassium iodide

Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects)
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(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 3)

Dermal	DNEL	0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
		1 mg/kg /bw/d (Worker / long-term /systemic effects)
Inhalative	DNEL	1 mg/kg /bw/d (Consumer / long-term / systemic effects)
		0.07 mg/m ³ (Worker / long-term /systemic effects)
		0.035 mg/m ³ (Consumer / long-term / systemic effects)

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide

PNEC 0.007 mg/l (Fresh water)

PNEC 0.075 mg/kg (Aquatic intermittent release)

0.007 mg/kg /sediment (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· Eye/face protection

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

· Hand protection

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

· Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

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

· Other skin protection (body protection):

Protective work clothing.

· Breathing equipment:

Use breathing protection against the effects of fumes/dust/aerosol.

· Recommended filter device for short term use:

Filter P1

· Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Solid.
· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable (solid).
· Decomposition temperature:	Not determined.
· pH at 20°C	7
· Kinematic viscosity	Not applicable (solid).

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 4)

· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 Reacts with acids, alkalis and oxidizing agents
 --> forms heat
 Reacts with alkaline metals
 Reacts with peroxides
 Reacts with halogenated compounds
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

CAS: 7681-11-0 potassium iodide

Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid

- **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.
- **Information on components:** The following applies to iodides in general: Sensitation possible at predisposed persons.
- **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.

· **Information on components:**

CAS: 7681-11-0 potassium iodide

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test)
	Mouse (lymphoma L5178Y cells)

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

(Contd. on page 6)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 5)

· STOT (specific target organ toxicity) -repeated exposure

Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

· Aspiration hazard Based on available data, the classification criteria are not met.**· Information on likely routes of exposure**

"Main routes of exposure:

At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.

Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.

Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.

Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

· Additional toxicological information:**CAS: 7681-11-0 potassium iodide**

(source: GESTIS)

Main Toxic Effects:

Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.

Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Further Information (GESTIS, Merck):

Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.

Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.

Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

· 11.2 Information on other hazards**· Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.**· Other information**

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information**· 12.1 Toxicity****· Aquatic toxicity:****CAS: 7681-11-0 potassium iodide**

EC50 7.5 mg/l/48h (Daphnia magna) (OECD 202)

Merck

LC50 3780 mg/l/96h (rainbow trout) (OECD 203)

Merck

· 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**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· 12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.**· 12.7 Other adverse effects** Avoid transfer into the environment.**· Water hazard:**

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

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

GB

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 6)

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

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

Hand over to disposers of hazardous waste.

· European waste catalogue

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

· Uncleaned packagings:

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

· Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA

Void

· 14.2 UN proper shipping name

· ADR, IMDG, IATA

Void

· 14.3 Transport hazard class(es)

· ADR, IMDG, IATA

· Class

Void

· 14.4 Packing group

· ADR, 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.

SECTION 15: Regulatory information

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

· Poisons Act UK

· Regulated explosives precursors

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

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

None of the ingredients is listed.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

Product name: DPD No. 3 High Calcium

(Contd. of page 7)

· **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.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

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

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H372 Causes damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· **Sources**

Data arise from safety data sheets, reference works and literature.

ECHA: European Chemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

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

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

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

1.1 Product identifier**Product name:** DPD No.1 High Calcium**Catalog number:**

00515741, 5157400BT, 515740BT, 5157410BT, 515741BT, 5157420BT, 515742BT, 00515749BT, 4515740BT, 4515741BT, 4515742BT

1.2 Relevant identified uses of the substance or mixture and uses advised against**Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.comphone: +49 (0)231 94510-0
e-mail: sales@lovibond.comThe Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdomphone : +44 1980 664800
e-mail: SDS@lovibond.uk**Informing department:**e-mail: sds@lovibond.com
Product Safety Department**1.4 Emergency telephone number:**+44 1235 239670
Languages: English

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 as hazardous according to the GB 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** No further relevant information available.**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures**Description:** Mixture of organic and inorganic compounds

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

Product name: DPD No.1 High Calcium

(Contd. of page 1)

SECTION 4: First aid measures

4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

thirst
gastric or intestinal trouble
sickness
vomiting
cardiovascular disorders

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 fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- **Advice for non-emergency personnel:** No special measures required.
- **Advice for emergency responders:** Protective equipment: see section 8

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Do not eat, drink or smoke when using this product.
Wash hands during breaks and at the end of the work.

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

Product name: DPD No.1 High Calcium

(Contd. of page 2)

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Store in cool, dry conditions in well sealed containers.
 - Protect from the effects of light.
 - Protect from humidity and keep away from water.
 - This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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 that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
- **Individual protection measures, such as personal protective equipment**
 - Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
 - Safety glasses
 - use against the effects of fumes / dust
- **Hand protection**
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 - nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
 - Value for the permeation: Level = 1 (< 10 min)
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P1
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.
- **Form:** Tablets
- **Colour:** White
- **Odour:** Odourless
- **Odour threshold:** Not applicable.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** 300°C
- **Flammability** The product is not combustible.
- **Explosive properties:** Product is not explosive.
- **Lower and upper explosion limit**
 - Lower:** Not applicable.
 - Upper:** Not applicable.
- **Flash point:** Not applicable.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

Product name: DPD No.1 High Calcium

(Contd. of page 3)

· Auto-ignition temperature:	Not applicable (solid).
· Decomposition temperature:	Not determined.
· pH at 20°C	6.2
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions** Reacts with ammonia (NH₃).
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** aluminium
- **10.6 Hazardous decomposition products:** see section 5

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.
- **Information on components:** CAS 6283-63-2: DPD may cause allergic skin reaction
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:** CAS 6283-63-2: Sensitization possible in predisposed persons.
- **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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -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** The product does not contain substances with endocrine disrupting properties.
- **Other information**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

Product name: DPD No.1 High Calcium

(Contd. of page 4)

- **Bacterial toxicity:** sulphates toxic > 2.5 g/l
- **Other information:**
Toxic for fish:
Sulphates > 7 g/l
- **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**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies.
Avoid transfer into the environment.
- **Water hazard:**
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|---|--|
| · 14.1 UN number or ID number | Void |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | Void |
| · ADR, IMDG, IATA | |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| · Class | Void |
| · 14.4 Packing group | Void |
| · ADR, IMDG, IATA | |
| · 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. |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act UK**

Regulated explosives precursors	
None of the ingredients is listed.	

(Contd. on page 6)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

Product name: DPD No.1 High Calcium

(Contd. of page 5)

· Regulated poisons
None of the ingredients is listed.
· Reportable explosives precursors
None of the ingredients is listed.
· Reportable poisons
None of the ingredients is listed.
· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated
· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)
None of the ingredients is listed.
· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:
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.
· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
None of the ingredients is listed.
· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
None of the ingredients is listed.
· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
None of the ingredients is listed.
· Substances of very high concern (SVHC) according to REACH, Article 57 This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· Substances of very high concern (SVHC) according to UK REACH This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· Directive 2012/18/EU (SEVESO III):
· Named dangerous substances - ANNEX I None of the ingredients is listed.
· Information about limitation of use: Not required.
· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 8 (replaces version 7)

Revision: 14.11.2023

Product name: DPD No.1 High Calcium

(Contd. of page 6)

- **Sources** Data arise from safety data sheets, reference works and literature.
 - * **Data compared to the previous version altered.**
-

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

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

· 1.1 Product identifier

· **Product name:** Chlorine Free - DPD F10 ml, PD 250

· **Catalog number:**

00530109, 00530149, 530100, 00570109, 530103, 00570104, 00570108, 530102, 570100, 570104, 530140 (2 x 00530149), 570108

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

· **Application of the substance / the preparation:** Reagent for water analysis

· 1.3 Details of the supplier of the safety data sheet

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· 1.4 Emergency telephone number:

+44 1235 239670
Languages: English

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 as hazardous according to the GB 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.

· **Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· **Determination of endocrine-disrupting properties**

The product does not contain substances with endocrine disrupting properties.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

3.2 Mixtures

· **Description:** Mixture of organic and inorganic compounds

· Dangerous components:

CAS: 139-33-3 EINECS: 205-358-3	Disodium dihydrogen ethylenediaminetetraacetate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%
CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1,4-diammonium sulphate (1:1) ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%

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

SECTION 4: First aid measures

4.1 Description of first aid measures

· **General information** Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

· **After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritating effects possible

allergic reactions

after swallowing of large amounts:

thirst

general feeling of sickness

sickness

vomiting

gastric pain

diarrhoea

after absorption of large amounts:

methaemoglobinaemia

disorder of electrolyte balance

· **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 fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Nitrogen oxides (NO_x)

Sulphur oxides (SO_x)

Phosphorus oxides (P_xO_x)

Dipotassium oxide

Carbon monoxide (CO) and carbon dioxide (CO₂)

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 2)

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:** No special measures required.
- **Advice for emergency responders:** Protective equipment: see section 8
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Protect from the effects of light.
Store under dry conditions.
Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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.
- **DNELs**
Derived No Effect Level (DNEL)

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

Oral	DNEL	25 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	2.5 mg/m ³ (Worker / acute / local effects)
		2.5 mg/m ³ (Worker / acute / systemic effects)
		2.5 mg/m ³ (Worker / long-term / local effects)
		2.5 mg/m ³ (Worker / long-term / systemic effects)
		1.5 mg/m ³ (Consumer / acute / local effects)
		1.5 mg/m ³ (Consumer / acute / systemic effects)
		1.5 mg/m ³ (Consumer / long-term / local effects)
		1.5 mg/m ³ (Consumer / long-term / systemic effects)

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 3)

- **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
Safety glasses
use against the effects of fumes / dust
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
- **Hand protection**
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.
- **Form:** Powder
- **Colour:** White
- **Odour:** Odourless
- **Odour threshold:** Not applicable.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** Not determined.
- **Flammability** The product is not combustible.
- **Explosive properties:** Product is not explosive.
- **Lower and upper explosion limit**
- Lower: Not applicable.
- Upper: Not applicable.
- **Flash point:** Not applicable.
- **Auto-ignition temperature:** Not applicable.
- **Decomposition temperature:** Not determined.
- **pH at 20°C** 6.3
- **Kinematic viscosity** Not applicable (solid).
- **Solubility**
- **Water:** Soluble
- **Partition coefficient n-octanol/water (log value)** Not applicable (mixture).
- **Vapour pressure:** Not applicable.
- **Density and/or relative density**
- Density: Not determined.
- Relative density: Not determined.
- Relative gas density: Not applicable (solid).
- **Particle characteristics** Not determined.

· 9.2 Other information

- **Information with regard to physical hazard classes**
- **Corrosive to metals** Void
- **Other safety characteristics**
- **Oxidising properties:** none
- **Additional information**
- **Solids content:** 100 %

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 4)

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
--> forms heat
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

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

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

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

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

Oral	LD50	2000 mg/kg (rat) (GESTIS)
------	------	------------------------------

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)

- **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.
- **Information on components:**
CAS 6283-63-2: DPD may cause allergic skin reaction

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:**
CAS 6283-63-2: Sensitization possible in predisposed persons.

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

Sensitisation	OECD 406	(guinea pig: negative) (EPA OPP 81-6: Guinea pig maximisation test)
---------------	----------	---

- **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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Information on likely routes of exposure**

CAS 6283-63-2 4-Amino-N,N-diethylaniline sulfate:

In analogy to CAS 93-05-0 Amino-N,N-diethylaniline at workplaces the main route of exposure is via the respiratory tract and the skin.

"The high systemic potential of Amino-N,N-diethylaniline observed in animal experiments after oral application of relatively low doses permits the assumption of an effective resorption via the digestive tract that must also be assumed for humans." [GESTIS]

- **Additional toxicological information:**

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

(source: GESTIS) Main toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline: Acute: Irritative effects to the mucosae and the skin, sensitising effects; Chronic: Skin diseases. Only insufficient information available on the systemic effects.
--

- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 5)

Other information

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

EC50 (static)	>100 mg/l/48h (Daphnia magna) (DIN 38412 Teil 11) (BASF)
NOEC	≥36.9 mg/l (zebrafish) (35d, OECD 210) (BASF; read across)
EC50	>100 mg/l/72h (Scenedesmus subspicatus) (88/302/EWG, part C) (BASF; read across)
LC50 (static)	>100 mg/l/96h (bluegill) (BASF; read across)

Bacterial toxicity: sulphates toxic > 2.5 g/l

Other information:

Toxic for fish:

Sulphates > 7 g/l

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

log Pow	-4.3 (.) (BASF)
---------	--------------------

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

log Pow	2.24 (.) (calculated)
---------	-----------------------

Bioconcentration factor (BCF)
CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

BCF	1.8 (bluegill) (conc. 0.08 mg/l, 28d) (ECHA, registrant: read across CAS 13235-36-4)
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12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

12.7 Other adverse effects

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.

Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation

Disposal must be made according to official regulations.

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

European waste catalogue

16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
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Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 6)

 · **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR, 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.

* SECTION 15: Regulatory information

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

 · **Poisons Act UK**

 · **Regulated explosives precursors**

None of the ingredients is listed.

 · **Regulated poisons**

None of the ingredients is listed.

 · **Reportable explosives precursors**

None of the ingredients is listed.

 · **Reportable poisons**

None of the ingredients is listed.

 · **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

 · **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

 · **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

 · **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

 · **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

 · **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

 · **Substances of very high concern (SVHC) according to REACH, Article 57**
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Free - DPD F10 ml, PD 250

(Contd. of page 7)

- **Substances of very high concern (SVHC) according to UK REACH**
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
- **Directive 2012/18/EU (SEVESO III):**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Information about limitation of use:** Not required.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Training hints** Provide adequate information, instruction and training for operators.
- **Relevant phrases**
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
- **Abbreviations and acronyms:**
OECD: Organisation for Economic Co-operation and Development
STOT: specific target organ toxicity
SE: single exposure
RE: repeated exposure
EC50: half maximal effective concentration
IC50: half maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
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
- **Sources**
Data arise from safety data sheets, reference works and literature.
ECHA: European Chemicals Agency <http://echa.europa.eu>
GESTIS- Stoffdatenbank (Substance Database, Germany)
- *** Data compared to the previous version altered.**

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

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

1.1 Product identifier

Product name: Chlorine Total - DPD F10 ml, PD 250

Catalog number:

00530129, 00530159, 530120, 530123, 00570129, 530151, 00570124, 530122, 00570128, 570120, 530150 (2x 00530159), 570124, 570128

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS08

Signal word Danger

Hazard-determining components of labelling:

potassium iodide

Hazard statements

H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 1)

Precautionary statements

- P260 Do not breathe dust.
- P264 Wash hands thoroughly after handling.
- P314 Get medical advice/attention if you feel unwell.

2.3 Other hazards

The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of organic and inorganic compounds

Dangerous components:

CAS: 7681-11-0 EINECS: 231-659-4 Reg.nr.: 01-2119966161-40-XXXX	potassium iodide STOT RE 1, H372	20–30%
CAS: 139-33-3 EINECS: 205-358-3	Disodium dihydrogen ethylenediaminetetraacetate Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%
CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1,4-diammonium sulphate (1:1) Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.

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

After skin contact Instantly wash with water and soap and rinse thoroughly.

After eye contact

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

allergic reactions

after swallowing of large amounts:

absorption

after absorption of large amounts:

sickness

vomiting

gastric pain

diarrhoea

drop in blood pressure

cardiovascular disorders

weakness

disorder of electrolyte balance

methaemoglobinaemia

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

Symptoms of poisoning may even occur after several hours.

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 2)

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture**
 - The product is not combustible.
 - Formation of toxic gases is possible during heating or in case of fire.
 - Can be released in case of fire:
 - Nitrogen oxides (NO_x)
 - Phosphorus oxides (P_xO_x)
 - Sulphur oxides (SO_x)
 - Dipotassium oxide
 - Hydrogen iodide (HI)
 - Carbon monoxide (CO) and carbon dioxide (CO₂)
- **5.3 Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained breathing apparatus.
 - Wear full protective suit.
- **Additional information**
 - Collect contaminated fire fighting water separately. It must not enter drains.
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 - Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation
- **Advice for emergency responders:** Protective equipment: see section 8
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
 - Ensure adequate ventilation.
 - Collect mechanically.
 - Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:**
 - Prevent formation of dust.
 - Provide suction extractors if dust is formed.
- **Hygiene measures:**
 - Take off immediately all contaminated clothing.
 - Wash hands during breaks and at the end of the work.
 - Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
 - Store in a locked cabinet or with access restricted to technical experts or their assistants.
 - Protect from heat and direct sunlight.
 - Store in cool, dry conditions in well sealed containers.
 - Protect from the effects of light.
 - Protect from humidity and keep away from water.
 - This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C

(Contd. on page 4)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 3)

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

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Components 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.

- **DNELs**

Derived No Effect Level (DNEL)

CAS: 7681-11-0 potassium iodide

Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects)
		0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
Dermal	DNEL	1 mg/kg /bw/d (Worker / long-term /systemic effects)
		1 mg/kg /bw/d (Consumer / long-term / systemic effects)
Inhalative	DNEL	0.07 mg/m ³ (Worker / long-term /systemic effects)
		0.035 mg/m ³ (Consumer / long-term / systemic effects)

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

Oral	DNEL	25 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	2.5 mg/m ³ (Worker / acute / local effects)
		2.5 mg/m ³ (Worker / acute / systemic effects)
		2.5 mg/m ³ (Worker / long-term / local effects)
		2.5 mg/m ³ (Worker / long-term /systemic effects)
		1.5 mg/m ³ (Consumer / acute / local effects)
		1.5 mg/m ³ (Consumer / acute / systemic effects)
		1.5 mg/m ³ (Consumer / long-term / local effects)
		1.5 mg/m ³ (Consumer / long-term / systemic effects)

- **PNECs**

Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide

PNEC	0.007 mg/l (Fresh water)
PNEC	0.075 mg/kg (Aquatic intermittent release)
	0.007 mg/kg /sediment (Fresh water sediment)

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **8.2 Exposure controls**

- **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

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

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

- **Eye/face protection**

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

- **Hand protection**

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

- **Material of gloves**

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

- **Penetration time of glove material**

Value for the permeation: Level = 1 (< 10 min)

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

- **Other skin protection (body protection):** Protective work clothing.

- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 4)

 · **Recommended filter device for short term use:** Filter P3

 · **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Solid.
· Form:	Powder
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable (solid).
· Decomposition temperature:	Not determined.
· pH at 20°C	6.3
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density:	Not determined.
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.

· 9.2 Other information

· Information with regard to physical hazard classes

· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

 · **10.1 Reactivity** see section 10.3

 · **10.2 Chemical stability** Stable at ambient temperature (room temperature).

· 10.3 Possibility of hazardous reactions

Reacts with acids, alkalis and oxidizing agents

--> forms heat

Reacts with alkaline metals

Reacts with peroxides

Reacts with halogenated compounds

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

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

 · **10.6 Hazardous decomposition products:** see section 5

GB

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 5)

SECTION 11: Toxicological information

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

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

· LD/LC50 values that are relevant for classification:

CAS: 7681-11-0 potassium iodide		
Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid
CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate		
Oral	LD50	2000 mg/kg (rat) (GESTIS)
CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)		
Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)

· **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.

· Information on components:

CAS 6283-63-2: DPD may cause allergic skin reaction

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

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

· Information on components:

CAS 6283-63-2: Sensitization possible in predisposed persons.

The following applies to iodides in general: Sensitization possible at predisposed persons.

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate		
Sensitisation	OECD 406	(guinea pig: negative) (EPA OPP 81-6: Guinea pig maximisation test)

· **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.

· Information on components:

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-11-0 potassium iodide		
OECD 471	(negative)	(Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative)	(In Vitro Mammalian Cell Gene Mutation Test)
		Mouse (lymphoma L5178Y cells)

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· STOT (specific target organ toxicity) -repeated exposure

Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

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

· Information on likely routes of exposure

"Main routes of exposure:

At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.

Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.

Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.

Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 6)

CAS 6283-63-2 4-Amino-N,N-diethylaniline sulfate:

In analogy to CAS 93-05-0 Amino-N,N-diethylaniline at workplaces the main route of exposure is via the respiratory tract and the skin.

"The high systemic potential of Amino-N,N-diethylaniline observed in animal experiments after oral application of relatively low doses permits the assumption of an effective resorption via the digestive tract that must also be assumed for humans." [GESTIS]

Additional toxicological information:**CAS: 7681-11-0 potassium iodide**

(source: GESTIS)

Main Toxic Effects:

Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.

Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Further Information (GESTIS, Merck):

Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.

Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.

Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

(source: GESTIS)

Main toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline:

Acute: Irritative effects to the mucosae and the skin, sensitising effects;

Chronic: Skin diseases. Only insufficient information available on the systemic effects.

11.2 Information on other hazards

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

Other information

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:****CAS: 7681-11-0 potassium iodide**

EC50	7.5 mg/l/48h (Daphnia magna) (OECD 202) Merck
LC50	3780 mg/l/96h (rainbow trout) (OECD 203) Merck

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate

EC50 (static)	>100 mg/l/48h (Daphnia magna) (DIN 38412 Teil 11) (BASF)
NOEC	≥36.9 mg/l (zebrafish) (35d, OECD 210) (BASF; read across)
EC50	>100 mg/l/72h (Scenedesmus subspicatus) (88/302/EWG, part C) (BASF; read across)
LC50 (static)	>100 mg/l/96h (bluegill) (BASF, read across)

Bacterial toxicity: sulphates toxic > 2.5 g/l

Other information:

Toxic for fish:

Sulphates > 7 g/l

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential

BCF = Bioconcentration factor

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 7)

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetatelog Pow -4.3 (.)
(BASF)**CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)**

log Pow 2.24 (.) (calculated)

Bioconcentration factor (BCF)**CAS: 139-33-3 Disodium dihydrogen ethylenediaminetetraacetate**BCF 1.8 (bluegill) (conc. 0.08 mg/l, 28d)
(ECHA, registrant: read across CAS 13235-36-4)· **12.4 Mobility in soil** No further relevant information available.· **12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.

· **Water hazard:**

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

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

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**· **Recommendation**

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

Hand over to disposers of hazardous 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 cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**· **ADR, IMDG, IATA** Void· **14.2 UN proper shipping name**· **ADR, IMDG, IATA** Void· **14.3 Transport hazard class(es)**· **ADR, IMDG, IATA**
· **Class** Void· **14.4 Packing group**· **ADR, 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.

GB
(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 8)

SECTION 15: Regulatory information

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

Poisons Act UK

Regulated explosives precursors

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

Reportable explosives precursors

None of the ingredients is listed.

Reportable poisons

None of the ingredients is listed.

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated

Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

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.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

Substances of very high concern (SVHC) according to UK REACH

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

Directive 2012/18/EU (SEVESO III):

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

Information about limitation of use: Employment restrictions concerning young persons must be observed (94/33/EC).

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

Training hints Provide adequate information, instruction and training for operators.

Relevant phrases

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

(Contd. on page 10)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 5 (replaces version 4)

Revision: 15.11.2023

Product name: Chlorine Total - DPD F10 ml, PD 250

(Contd. of page 9)

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

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

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

· * Data compared to the previous version altered.

— GB —

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

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

1.1 Product identifier

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

Catalog number:

424-4, 48011612, 48011712, 48011812, 48011650, 48011750, 48011850, 194280-1000, 194281-1000, 48011612-0, 48011712-0, 48011812-0, 48011650-0, 48011750-0, 48011850-0

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

Application of the substance / the preparation: Standard Solution for calibration purposes

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS07

Signal word Warning

Hazard-determining components of labelling:

methenamine
formaldehyde 0.099 %

Hazard statements

H317 May cause an allergic skin reaction.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 1)

Precautionary statements

P280 Wear protective gloves.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: aqueous solution

Dangerous components:

CAS: 100-97-0 EINECS: 202-905-8 Index No: 612-101-00-2 Reg.nr.: 01-2119474895-20-XXXX	methenamine ⚠ Flam. Sol. 2, H228; ⚠ Skin Sens. 1, H317	2.5–5%
CAS: 50-00-0 EINECS: 200-001-8 Index No: 605-001-00-5	formaldehyde ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317 Specific concentration limits: Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 5 % ≤ C < 25 % Eye Irrit. 2; H319: 5 % ≤ C < 25 % Skin Sens. 1; H317: C ≥ 0.2 % STOT SE 3; H335: C ≥ 5 %	<0.1%

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 Instantly remove any clothing soiled by the product.

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

After skin contact

Instantly wash with water and soap and rinse thoroughly.
 If skin irritation or rash occurs: Get medical advice/attention.

After eye contact

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.
 Seek medical treatment in case of complaints.

4.2 Most important symptoms and effects, both acute and delayed:

allergic reactions
 after inhalation:
 mucosal irritations, cough, shortness of breath
 after swallowing:
 gastric or intestinal trouble
 pain

Danger risk of skin sensitization

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 fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.
 Formation of toxic gases is possible during heating or in case of fire.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 2)

Can be released in case of fire:

Nitrogen oxides (NO_x)Ammonia (NH₃)

hydrogen cyanide (prussic acid HCN)

5.3 Advice for firefighters
Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders: Protective equipment: see section 8

6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

Dilute with much water.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

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

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling: No special precautions necessary if used correctly.

Hygiene measures:

Avoid contact with the skin.

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

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

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and containers: Store only in the original container.

Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions:

Protect from frost.

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

Recommended storage temperature: 5°C - 25°C

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
CAS: 50-00-0 formaldehyde

WEL (Great Britain)

Short-term value: 2.5 mg/m³, 2 ppmLong-term value: 2.5 mg/m³, 2 ppm

Carc

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 3)

BOELV (European Union)	Short-term value: 0.74 mg/m ³ , 0.6 ppm Long-term value: 0.37 (0.62)* mg/m ³ , 0.3 (0.5)* ppm Skin sens;*health/funeral/embalming till 11/7/24
------------------------	--

Regulatory information

WEL (Great Britain): EH40/2020
BOELV (European Union): EU 2022/431

DNELs

Derived No Effect Level (DNEL)

CAS: 100-97-0 methenamine

Dermal	DNEL	8.8 mg/kg (Worker / long-term /systemic effects)
Inhalative	DNEL	31 mg/m ³ (Worker / long-term /systemic effects)

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

PNECs

Predicted No Effect Concentration (PNEC)

CAS: 100-97-0 methenamine

PNEC	100 mg/l (Sewage treatment plant) 0.5 mg/l (Marine water) 2.4 mg/l (Fresh water sediment) 3 mg/l (Fresh water)
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· **Additional information:** The lists that were valid during the compilation were used as basis.

8.2 Exposure controls
Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Eye/face protection** Safety glasses recommended during refilling.

· **Hand protection** Protective gloves.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

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

· **Other skin protection (body protection):** Protective work clothing.

· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

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

· **Environmental exposure controls** Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

· Physical state	Fluid
· Form:	Suspension
· Colour:	milky
· Odour:	Fish-like
· Odour threshold:	Not determined.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	100°C
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 4)

· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH at 20°C	~9
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20°C:	~1 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	5 - 10 %
· Solvent content:	
· Organic solvents:	< 0.1 %
· Water:	> 90 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
In contact with nitrites, nitrates or nitrous acid possible release of nitrosamines (carcinogenic)!
- Reacts with peroxides
- Reacts with oxidizing agents
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

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

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

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

CAS: 100-97-0 methenamine

Oral	LD50	9200 mg/kg (rat) (IUCLID)
Dermal	LD50.	>2000 mg/kg (rat) (OECD 402)

CAS: 50-00-0 formaldehyde

Oral	LD50	100 mg/kg (rat)
Dermal	LD50	270 mg/kg (rabbit)
Inhalative	LC50/4h	3 mg/l (vapour)

- **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.

- **Information on components:**

CAS: 100-97-0 methenamine

Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 5)

· **Respiratory or skin sensitisation** May cause an allergic skin reaction.

· **Information on components:**

CAS: 100-97-0 methenamine

Sensitisation	OECD 406	(guinea pig: positive)
	Patch test (human)	(positive) (IUCLID)

· **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.

· **Information on components:**

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 100-97-0 methenamine

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (IUCLID)

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

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

· **Additional toxicological information:**

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

· **11.2 Information on other hazards**

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

· **Other information**

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

CAS: 100-97-0 methenamine

EC50	36 mg/l/48h (Daphnia magna) (IUCLID)
EC10	5 mg/l (fish)
LC50 (static)	41 mg/l/96h (bluegill) (US-EPA)

CAS: 50-00-0 formaldehyde

EC50	2 mg/l/48h (Daphnia magna)
LC50	100 mg/l/96h (bluegill) IUCLID 24 mg/l/96h (fathead minnow)

· **Bacterial toxicity:**

CAS: 100-97-0 methenamine

EC50 (static)	>5000 mg/l (Bacterial toxicity) (DIN 38412) (Merck, Vibrio fischeri)
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· **12.2 Persistence and degradability**

CAS: 100-97-0 methenamine

OECD 302 C	39–47 % / 28 d (not readily biodegradable) (Modified MITI Test (II))
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(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 6)

CAS: 50-00-0 formaldehyde	
OECD 301 D	99 % / 28 d (readily biodegradable) (Closed Bottle Test) (37% solution)
· 12.3 Bioaccumulative potential	
CAS: 100-97-0 methenamine	
log Pow	-2.84 (.) (experimental) (IUCLID)
CAS: 50-00-0 formaldehyde	
log Pow	0.021 (.)
· 12.4 Mobility in soil No further relevant information available.	
· 12.5 Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.	
· 12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.	
· 12.7 Other adverse effects Avoid transfer into the environment.	
· Water hazard:	
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.	
Must not reach sewage water or drainage ditch undiluted or unneutralised.	

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods	
· Recommendation	
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.	
Hand over to disposers of hazardous waste.	
· European waste catalogue	
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
· Uncleaned packagings:	
· Recommendation: Disposal must be made according to official regulations.	
· Recommended cleaning agent: Water, if necessary with cleaning agent.	

SECTION 14: Transport information

· 14.1 UN number or ID number	
· ADR, IMDG, IATA	Void
· 14.2 UN proper shipping name	
· ADR, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR, 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.	

 GB
 (Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 7)

SECTION 15: Regulatory information

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

· **Poisons Act UK**

· **Regulated explosives precursors**

CAS: 100-97-0 methenamine

Listed

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

CAS: 50-00-0 formaldehyde

5%

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors**

This product is regulated by Regulation (EU) 2019/1148:

All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

Please see <https://ec.europa.eu>

· **explosives precursors - ANNEX II**

CAS: 100-97-0 methenamine

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

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.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 72

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H228 Flammable solid.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

(Contd. on page 9)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 3 (replaces version 2)

Revision: 27.10.2023

Product name: T-CALplus® / T-CAL® Standard 200 NTU / 500 NTU / 800 NTU / 1000 NTU

(Contd. of page 8)

H317 May cause an allergic skin reaction.
 H331 Toxic if inhaled.
 H341 Suspected of causing genetic defects.
 H350 May cause cancer.

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development
 STOT: specific target organ toxicity
 SE: single exposure
 RE: repeated exposure
 EC50: half maximal effective concentration
 IC50: half maximal inhibitory concentration
 NOEL or NOEC: No Observed Effect Level or Concentration
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (UK REACH)
 PNEC: Predicted No-Effect Concentration (UK REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Flam. Sol. 2: Flammable solids – Category 2
 Acute Tox. 3: Acute toxicity – Category 3
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B
 Skin Sens. 1: Skin sensitisation – Category 1
 Muta. 2: Germ cell mutagenicity – Category 2
 Carc. 1B: Carcinogenicity – Category 1B

· Sources

Data arise from safety data sheets, reference works and literature.
 IUCLID (International Uniform Chemical Information Database)
 GESTIS- Stoffdatenbank (Substance Database, Germany)
 ECHA: European CHemicals Agency <http://echa.europa.eu>

· * Data compared to the previous version altered.

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

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

- **1.1 Product identifier**
- **Product name:** DPD 1 Buffer
- **Catalog number:** 424442, 471010, 471011, 471016, 471010-N
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation:** Reagent for water analysis
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**
Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com
- **Informing department:**
e-mail: sds@lovibond.com
Product Safety Department
- **1.4 Emergency telephone number:**
+44 1235 239670
Languages: English

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

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 as hazardous according to the GB 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** No further relevant information available.
- **Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **Determination of endocrine-disrupting properties**
The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** aqueous buffer solution
- **Dangerous components:** Void

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

Product name: DPD 1 Buffer

(Contd. of page 1)

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information** Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

· **After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed:**

after swallowing of large amounts:

general feeling of sickness

· **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 fighting measures that suit the environment.

· 5.2 Special hazards arising from the substance or mixture

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Phosphorus oxides (P_xO_x)

Dipotassium oxide

· 5.3 Advice for firefighters

· **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

· **Advice for non-emergency personnel:** Wear protective equipment. Keep unprotected persons away.

· **Advice for emergency responders:** Protective equipment: see section 8

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

Dilute with much water.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

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

Dispose of contaminated material as waste according to item 13.

· 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

· **Advice on safe handling:** No special precautions necessary if used correctly.

· **Hygiene measures:**

The usual precautionary measures should be adhered to general rules for handling chemicals.

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

Wash hands during breaks and at the end of the work.

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

Product name: DPD 1 Buffer

(Contd. of page 2)

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from the effects of light.
 - Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components 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 that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
- **Individual protection measures, such as personal protective equipment**
 - Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
 - Safety glasses
 - use against the effects of fumes / dust
- **Hand protection**
 - No chemical-protective gloves required.
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 - nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
 - Value for the permeation: Level = 1 (< 10 min)
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P1
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Fluid
- **Form:** Solution
- **Colour:** Colourless
- **Odour:** Odourless
- **Odour threshold:** Not applicable.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** Not determined.
- **Flammability** The product is not combustible.
- **Explosive properties:** Product is not explosive.
- **Lower and upper explosion limit**
 - Lower:** Not applicable.
 - Upper:** Not applicable.
- **Flash point:** Not applicable.
- **Auto-ignition temperature:** Not applicable.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

Product name: DPD 1 Buffer

(Contd. of page 3)

· Decomposition temperature:	Not determined.
· pH at 20°C	7
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20°C:	1.1 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).
· 9.2 Other information	
· Corrosive to metals	Void
· Oxidising properties:	none
· Other information	
· Solids content:	< 20 %
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	> 80 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
--> forms heat
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

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.
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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

GB
(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

Product name: DPD 1 Buffer

(Contd. of page 4)

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.
- **Water hazard:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
16 05 09 | discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number	
· ADR, IMDG, IATA	Void
· 14.2 UN proper shipping name	
· ADR, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR, 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.

GB
(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

Product name: DPD 1 Buffer

(Contd. of page 5)

SECTION 15: Regulatory information

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

· Poisons Act UK

· Regulated explosives precursors

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

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.

· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

· Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· Substances of very high concern (SVHC) according to UK REACH

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· Directive 2012/18/EU (SEVESO III):

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

· Information about limitation of use: Not required.

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· Training hints Provide adequate information, instruction and training for operators.

· Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation

EC50: effective concentration, 50 percent (in vivo)

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 69 (replaces version 68)

Revision: 01.02.2024

Product name: DPD 1 Buffer

(Contd. of page 6)

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

· **Sources** Data arise from safety data sheets, reference works and literature.

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

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

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

1.1 Product identifier

Product name: **DPD 1 Reagent**

Catalog number: 424443, 471020, 471021, 471026, 471020-N

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Met. Corr.1 H290 May be corrosive to metals.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS05

Signal word Warning

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 1)

Hazard statements

H290 May be corrosive to metals.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves / eye protection.
 P234 Keep only in original packaging.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P302+P352 IF ON SKIN: Wash with plenty of water.

2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: sulfuric acid solution

Dangerous components:

CAS: 7664-93-9 EINECS: 231-639-5 Index No: 016-020-00-8 Reg.nr.: 01-2119458838-20-XXXX	sulphuric acid ⚠ Met. Corr. 1, H290; Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 15\%$ Skin Irrit. 2; H315: $5\% \leq C < 15\%$ Eye Dam. 1; H318: $C \geq 15\%$ Eye Irrit. 2; H319: $5\% \leq C < 15\%$	5–10%
CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1,4-diammonium sulphate (1:1) ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.

After inhalation Supply fresh air and call for doctor for safety reasons.

After skin contact

Instantly rinse with water.

If skin irritation continues, consult a doctor.

After eye contact Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed:

allergic reactions

after inhalation:

mucosal irritations, cough, shortness of breath

after swallowing:

irritations

sickness

vomiting

after swallowing of large amounts:

Danger of gastric perforation.

diarrhoea

methaemoglobinaemia

Danger Danger of system failure.

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 2)

- **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 fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Sulphur oxides (SO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Advice for emergency responders:** Protective equipment: see section 8
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Use neutralising agent.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Hygiene measures:**
Avoid contact with the skin.
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:**
Store in cool location.
Keep only in original packaging.
- **Information about storage in one common storage facility:**
Store away from metals.
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Protect from the effects of light.
Protect from humidity and keep away from water.
- **Recommended storage temperature:** 6°C - 10°C

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 3)

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

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

- **Components with limit values that require monitoring at the workplace:**

CAS: 7664-93-9 sulphuric acid

WEL (Great Britain)	Long-term value: 0.05* mg/m ³ *mist: defined as thoracic fraction
IOELV (European Union)	Long-term value: 0.05 mg/m ³

· **Regulatory information**

WEL (Great Britain): EH40/2020

IOELV (European Union): (EU) 2019/1831

- **Additional information:** IOELV = Indicative Occupational Exposure Limit

· **DNELs**

Derived No Effect Level (DNEL)

CAS: 7664-93-9 sulphuric acid

Inhalative	DNEL	0.1 mg/m ³ (Worker / acute / local effects)
		0.05 mg/m ³ (Worker / acute / systemic effects)

· **Recommended monitoring procedures:**

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· **PNECs**

Predicted No Effect Concentration (PNEC)

CAS: 7664-93-9 sulphuric acid

PNEC	8.8 mg/l (Sewage treatment plant)
	0.00025 mg/l (Marine water)
	0.0025 mg/l (Fresh water)
PNEC	0.002 mg/kg (Marine sediment)
	0.002 mg/kg (Fresh water sediment)

- **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

- **Engineering measures:** No further data; see section 7.

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

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Eye/face protection**

Safety glasses

use against the effects of fumes / dust

· **Hand protection**

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

· **Penetration time of glove material**

Value for the permeation: Level = 1 (< 10 min)

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

· **Other skin protection (body protection):** Protective work clothing.

- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

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

- **Environmental exposure controls** Avoid release to the environment.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 4)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Fluid
· Form:	Solution
· Colour:	Colourless
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH at 20°C	< 1
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20°C:	1.09 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).

· 9.2 Other information

· Corrosive to metals	May be corrosive to metals.
· Metals that are corroded by the substance or mixture	Information on incompatible materials can be found in Sections 7 and 10.
· Metal corrosion rate:	acc. to "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fifth revised Edition"
· Corrosion rate (steel)	34.87 mm/a
· Oxidising properties:	none
· Other information	
· Solids content:	< 2.5 %
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	> 90 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 - Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)
 - Corrosive action on metals
 - Heating occurs when water is added
 - Reacts with reducing agents
 - Reacts with acids and alkali (lyes).
 - Reacts with ammonia (NH₃).
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:**
 - metals
 - combustible substances
 - organic solvents
- **10.6 Hazardous decomposition products:** see section 5

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 5)

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.

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

LD/LC50 values that are relevant for classification:

CAS: 7664-93-9 sulphuric acid

Oral	LD50	2140 mg/kg (rat) (IUCLID)
Inhalative	LC 50	510 mg/m ³ /2h (rat) IUCLID

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)

Skin corrosion/irritation

Causes skin irritation.

Causes skin irritation.

Serious eye damage/irritation Causes serious eye irritation.

Information on components:

Skin irritation testing performed on 10% sulfuric acid showed slight to no irritation effects (GESTIS).

CAS 6283-63-2: DPD may cause allergic skin reaction

CAS 7664-93-9: chronic: dermatitis

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

Information on components: CAS 6283-63-2: Sensitization possible in predisposed persons.

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 (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.

STOT (specific target organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.

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

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) The following statements refer to the mixture:

Additional toxicological information:

Vapours and aerosols may be irritant to the mucous membranes and upper respiratory tract.

Sulfuric acid: erosion of the teeth, cancer

CAS: 7664-93-9 sulphuric acid

(source: GESTIS)

Main toxic effects

Acute: Irritation up to chemical burns to the mucous membranes and skin, danger of serious damage to the eyes and lungs

Chronic: Irritation to the eyes and airways, erosion of the teeth, damage to the skin

Further Information:

Concentrated S. differs considerably from dilute Sulfuric acid with regard to chemical properties and effects. With increased dilution Sulfuric acid acts less aggressively.

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

(source: GESTIS)

Main toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline:

Acute: Irritative effects to the mucosae and the skin, sensitising effects;

Chronic: Skin diseases. Only insufficient information available on the systemic effects.

11.2 Information on other hazards

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

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 6)

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 7664-93-9 sulphuric acid

EC50 >100 mg/l/48h (Daphnia magna) (OECD 202)
(ECHA)

LC50 16–29 mg/l/96h (bluegill)
(Merck)

· Bacterial toxicity: sulphates toxic > 2.5 g/l

· Other information:

Toxic for fish:

Sulphates > 7 g/l

· 12.2 Persistence and degradability No further relevant information available.

· 12.3 Bioaccumulative potential

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

log Pow 2.24 (.) (calculated)

· 12.4 Mobility in soil No further relevant information available.

· 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

· 12.7 Other adverse effects

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Avoid transfer into the environment.

· Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

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

Hand over to disposers of hazardous waste.

· European waste catalogue

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

· Uncleaned packagings:

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

· Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA

UN2796

· 14.2 UN proper shipping name

· ADR

2796 SULPHURIC ACID mixture

· IMDG, IATA

SULPHURIC ACID mixture

(Contd. on page 8)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 7)

· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	8 (C1) Corrosive substances.
· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances.
· Label	8
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	
· Warning:	Corrosive substances.
· Kemler Number:	80
· EMS Number:	F-A,S-B
· Segregation groups	(SGG1) Acids
· Stowage Category	B
· 14.7 Maritime transport in bulk according to IMO instruments	
	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ):	E1
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Poisons Act UK**· **Regulated explosives precursors**

The concentration of the substance is less than the stated mass percentage and should still be considered as reportable substance:

CAS: 7664-93-9	sulphuric acid	15%
· Regulated poisons		
None of the ingredients is listed.		
· Reportable explosives precursors		
None of the ingredients is listed.		

(Contd. on page 9)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 8)

Reportable poisons	
None of the ingredients is listed.	
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors This product is regulated by Regulation (EU) 2019/1148: All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see https://ec.europa.eu	
explosives precursors - ANNEX I CAS 7664-93-9: c < 15%	
CAS: 7664-93-9	sulphuric acid *
Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)	
None of the ingredients is listed.	
Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:	
None of the ingredients is listed.	
Regulation (EC) No 273/2004 on drug precursors	
CAS: 7664-93-9	sulphuric acid 3
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
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:	
None of the ingredients is listed.	
REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)	
None of the ingredients is listed.	
LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)	
None of the ingredients is listed.	
Substances of very high concern (SVHC) according to REACH, Article 57 This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).	
Substances of very high concern (SVHC) according to UK REACH This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).	
Directive 2012/18/EU (SEVESO III):	
Named dangerous substances - ANNEX I None of the ingredients is listed.	
REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3	
Information about limitation of use: Not required.	
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

Training hints Provide adequate information, instruction and training for operators.

Relevant phrases

H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation
 EC50: effective concentration, 50 percent (in vivo)
 OECD: Organisation for Economic Co-operation and Development
 STOT: specific target organ toxicity
 SE: single exposure
 RE: repeated exposure

(Contd. on page 10)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 60 (replaces version 59)

Revision: 01.02.2024

Product name: DPD 1 Reagent

(Contd. of page 9)

EC50: half maximal effective concentration
IC50: half maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
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

Sources

Data arise from safety data sheets, reference works and literature.
IUCLID (International Uniform Chemical Information Database)
GESTIS- Stoffdatenbank (Substance Database, Germany)

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

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

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

1.1 Product identifier

Product name: **DPD 3 Reagent**

Catalog number: 424444, 471030, 471031, 471036, 471030-N

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

Informing department:

e-mail: sds@lovibond.com
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

STOT RE 2 H373 May cause damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS08

Signal word Warning

Hazard statements

H373 May cause damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
P314 Get medical advice/attention if you feel unwell.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 1)

2.3 Other hazards

The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: aqueous solution

Dangerous components:

CAS: 7681-11-0	potassium iodide	 STOT RE 1, H372	2.5–5%
EINECS: 231-659-4			
Reg.nr.: 01-2119966161-40-XXXX			

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 Instantly remove any clothing soiled by the product.

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

After skin contact Instantly wash with water and soap and rinse thoroughly.

After eye contact

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of persistent symptoms consult doctor.

Information for doctor Sulphites are strong sensitizers.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after swallowing:

absorption

after absorption of large amounts:

thirst

sickness

vomiting

diarrhoea

gastric pain

drop in blood pressure

cardiovascular disorders

headache

weakness

disorder of electrolyte balance

Danger

Danger of impaired breathing.

Danger of disturbed cardiac rhythm.

4.3 Indication of any immediate medical attention and special treatment needed:

Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

Symptoms of poisoning may even occur after several hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 2)

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Sulphur oxides (SO_x)

Hydrogen iodide (HI)

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

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

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders: Protective equipment: see section 8**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

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

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling:** Prevent formation of aerosols.**Hygiene measures:**

Take off immediately all contaminated clothing.

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

Wash hands during breaks and at the end of the work.

7.2 Conditions for safe storage, including any incompatibilities**Requirements to be met by storerooms and containers:** Store in cool location.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:**

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

Recommended storage temperature: 6°C - 10°C**7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Components 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.

DNELs

Derived No Effect Level (DNEL)

CAS: 7681-11-0 potassium iodide

Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects)
		0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
Dermal	DNEL	1 mg/kg /bw/d (Worker / long-term /systemic effects)

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 3)

Inhalative	DNEL	1 mg/kg /bw/d (Consumer / long-term / systemic effects) 0.07 mg/m ³ (Worker / long-term /systemic effects) 0.035 mg/m ³ (Consumer / long-term / systemic effects)
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· **Recommended monitoring procedures:**

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· **PNECs**

Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide

PNEC	0.007 mg/l (Fresh water)
PNEC	0.075 mg/kg (Aquatic intermittent release)
	0.007 mg/kg /sediment (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

· **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

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

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Eye/face protection**

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

· **Hand protection**

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

· **Penetration time of glove material**

Value for the permeation: Level = 1 (< 10 min)

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

· **Other skin protection (body protection):** Protective work clothing.

· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

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

· **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· Physical state	Fluid
· Form:	Solution
· Colour:	Colourless
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	The product is not combustible.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not applicable.
· pH at 20°C	5.4
· Kinematic viscosity	Not determined.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 4)

· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20°C:	1.35 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).
· 9.2 Other information	
· Corrosive to metals	Void
· Oxidising properties:	none
· Other information	
· Solids content:	~20 %
· Solvent content:	
· Organic solvents:	0 %
· Water:	~80 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Contact with acids releases toxic gases
Reacts with oxidizing agents
- **10.4 Conditions to avoid** strong heating
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

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.

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

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

CAS: 7681-11-0 potassium iodide

Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid

- **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.
- **Information on components:** The following applies to iodides in general: Sensitisation possible at predisposed persons.
- **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.
- **Information on components:**
OECD 414: Teratogenicity testing
OECD 473: Mutagenicity testing
OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-11-0 potassium iodide

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) Mouse (lymphoma L5178Y cells)

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 5)

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure**
May cause damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
May cause damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **Information on likely routes of exposure**

"Main routes of exposure:

At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.

Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.

Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.

Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

- **Additional toxicological information:**

Iodine salts can cause deformity, illness, and death of a fetus.

iodide: chronic hypothyroidism

CAS: 7681-11-0 potassium iodide

(source: GESTIS)

Main Toxic Effects:

Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.

Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Further Information (GESTIS, Merck):

Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.

Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.

Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **Other information**
Other dangerous properties can not be excluded.
According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

CAS: 7681-11-0 potassium iodide

EC50	7.5 mg/l/48h (Daphnia magna) (OECD 202) Merck
LC50	3780 mg/l/96h (rainbow trout) (OECD 203) Merck

- **12.2 Persistence and degradability**

- **Other information:**

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

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

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

(Contd. on page 7)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 6)

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

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

· **12.7 Other adverse effects** Avoid transfer into the environment.

Water hazard:

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

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods**Recommendation**

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

Hand over to disposers of hazardous waste.

European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
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Uncleaned packagings:

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

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN number or ID number

· **ADR, IMDG, IATA**

Void

14.2 UN proper shipping name

· **ADR, IMDG, IATA**

Void

14.3 Transport hazard class(es)

· **ADR, IMDG, IATA**

· **Class**

Void

14.4 Packing group

· **ADR, 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.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Poisons Act UK****Regulated explosives precursors**

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

Reportable explosives precursors

None of the ingredients is listed.

Reportable poisons

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 7)

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)
None of the ingredients is listed.
· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:
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.
· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
None of the ingredients is listed.
· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
None of the ingredients is listed.
· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

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

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

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

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H372 Causes damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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

(Contd. on page 9)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.02.2024

Version number 48 (replaces version 47)

Revision: 01.02.2024

Product name: DPD 3 Reagent

(Contd. of page 8)

- **Sources** Data arise from safety data sheets, reference works and literature.
 - *** Data compared to the previous version altered.**
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GB