# 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)

# 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<br>EINECS: 231-659-4<br>Reg.nr.: 01-2119966161-40-XXXX | potassium iodide | STOT RE 1, H372 | 2.5–5% |

· **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 (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



(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 (SOx)
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)<br>0.07 mg/m³ (Worker / long-term /systemic effects)<br>0.035 mg/m³ (Consumer / 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: 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** | 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/cm³ |
| · **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)<br>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) |
| OECD 476 | (negative) (In Vitro Mammalian Cell Gene Mutation Test)<br>Mouse (lymhoma 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 (carcinogenity, 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)<br>Main Toxic Effects:<br>Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.<br>Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.<br><br>Furter Information (GESTIS, Merck):<br>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.<br>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.<br>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)<br>Merck |
| LC50 | 3780 mg/l/96h (rainbow trout) (OECD 203)<br>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)

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



(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 |

· **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



(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 ≥ 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 ≥ 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 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**
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)

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



(Contd. of page 8)

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

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