Safety Data Sheet
according to WHS Regulations

Printing date 05.04.2024 Reviewed on 05.04.2024

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: DPD No. 3**

· **Catalogue number:** 00511081, 511080BT, 511081BT, 511082BT, 511540BT, 00511549BT, 00511089BT, 56T001350

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

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

· **Manufacturer/Supplier:**
Waterlilly Australia Pty Ltd
(ABN 86 079 391 503)
PO Box 48
Haberfield NSW 2045
Phone : 02 9798 9975
Email : water-lilly@bigpond.com

· **Emergency telephone number:**
NSW Poisons Information Centre
The Children's Hospital at Westmead
Locked Bag 4001
Westmead NSW 2145

Phone : 13 11 26 (24 Hour National Hotline)

2 Hazard(s) Identification

· **Classification of the substance or mixture**

Health hazard

Specific Target Organ Toxicity - Repeated Exposure 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

· **Label elements**
· **Hazard pictograms**

GHS08

· **Signal word** Danger
· **Hazard-determining components of labeling:**
potassium iodide (10–20 %)
· **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.
P314 Get medical advice/attention if you feel unwell.

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

3 Composition and Information on Ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of inorganic compounds.

· **Composition and Information on Ingredients:**

CAS: 7681-11-0 EINECS: 231-659-4 RTECS: TT2975000	potassium iodide	Specific Target Organ Toxicity - Repeated Exposure 1, H372	10–20%

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

4 First Aid Measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
In case of symptoms consult doctor.
· **Most important symptoms and effects, both acute and delayed**
irritations
after swallowing and inhalation:
resorption
after absorption of large amounts:
thirst
sickness
vomiting
diarrhoea
abdominal pain
drop in blood pressure
cardiovascular disorders
weakness
headache
disorder of electrolyte balance
· **Danger:**
Danger of disturbed cardiac rhythm.
Danger of impaired breathing.
· **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.

5 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **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.
In case of fire, the following can be released:
Hydrogen chloride (HCl)
Potassium oxide
Hydrogen iodide (HI)
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures**
· **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

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

· **Environmental precautions:** Do not allow product to reach sewage system or any water course.
· **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Pick up mechanically.
Dispose contaminated material as waste according to section 13.
· **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

· **Precautions for safe handling**
· **Advice on safe handling:** Provide suction extractors if dust is formed.
· **Hygiene measures:**
Remove/Take off immediately all contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from oxidizing agents.
· **Further information about storage conditions:**
Store locked up or with access restricted to technical experts or their assistants.
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed receptacles.
Protect from exposure to the light.
Protect from humidity and water.
This product is hygroscopic.
· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

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

8 Exposure controls and personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
CAS: 7681-11-0 potassium iodide	
TLV (USA)	Long-term value: 0.01 ppm A4; Skin; *inhalation

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

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

· **Personal protective equipment:**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
· **Eye protection:**
Safety glasses
use against the effects of fumes / dust
· **Protection of hands:**
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.

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· **Body protection:** Protective work clothing
· **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.
· **Recommended filter device for short term use:** Filter P2

· **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

*
9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **Physical state**	Solid
· **Form**	Tablets
· **Color:**	White
· **Odor:**	Odorless
· **Odor threshold:**	Not applicable.
· **Melting point/freezing point:**	Not determined.
· **Initial boiling point and boiling range:**	Not determined.
· **Flammability**	The product is not combustible.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Lower and upper explosion limit**	
Lower:	Not applicable.
Upper:	Not applicable.
· **Flash point:**	Not applicable.
· **Auto igniting:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **pH-value (13 g/l) at 20°C (68°F):**	6.3
· **Kinematic viscosity**	Not applicable (solid).
· **Solubility(ies)**	
· **Water:**	Soluble.
· **Partition coefficient (n-octanol/water):**	Not applicable (mixture).
· **Vapor Pressure:**	Not applicable (solid).
· **Density at 20°C (68°F):**	2.16 g/cm³ (18.03 lbs/gal)
· **Relative density:**	Not determined.
· **Vapor density:**	Not applicable.

· **Information with regard to physical hazard classes**	
· **Corrosive to metals**	Based on available data, the classification criteria are not met.
· **Other safety characteristics**	
· **Oxidizing properties:**	none
· **Additional information**	
· **Solids content:**	100 %

10 Stability and Reactivity

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

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11 Toxicological Information

· **Information on toxicological effects**

· **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

· **Primary irritant effect:**

· **on the skin:** Based on available data, the classification criteria are not met.
· **on the eye:** Based on available data, the classification criteria are not met.

· **Sensitization:** 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) Mouse (lymhoma 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. Furter 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

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· **Other information** Other dangerous properties can not be excluded.

12 Ecological Information

· **Ecotoxicity**

· **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

· **Persistence and degradability** .
· **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

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

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

14 Transport information

· **UN-Number** · **ADG, IMDG, IATA**	none
· **UN proper shipping name** · **ADG, IMDG, IATA**	none
· **Transport hazard class(es)** · **ADG, IMDG, IATA** · **Class**	none
· **Packing group** · **ADG, IMDG, IATA**	none
· **Environmental hazards:** · **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.

15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals (AIIC)**
All ingredients are listed.

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· **Standard for the Uniform Scheduling of Medicines and Poisons**

CAS: 7447-40-7	potassium chloride	S4

· **Australia: Priority Existing Chemicals**

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.

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

None of the ingredients is listed.

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

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

16 Other information

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

· **Relevant phrases**
H372 Causes damage to organs through prolonged or repeated exposure.

· **Version number / date of revision:** 8 / 05.04.2024

· **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
ACGIH® - American Conference of Governmental Industrial Hygienists
•A1 - Confirmed human carcinogen
•A2 - Suspected human carcinogen
•A3 - Confirmed animal carcinogen with unknown relevance to humans
•A4 - Not classifiable as a human carcinogen
•A5 - Not suspected as a human carcinogen
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
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
Specific Target Organ Toxicity - Repeated Exposure 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.**