

# Safety data sheet

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

Printing date 22.03.2024

Version number 1

Revision: 22.03.2024

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

- **1.1 Product identifier**
- **Trade name:** Lugol's Iodine
- **Registration number** Mixture
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC21 Laboratory chemicals
- **Application of the substance / the mixture** Laboratory chemicals
- **Uses advised against** Any use not specified above.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Mitolab ltd  
 Unit 1  
 Bethel House  
 Kilgetty  
 Pembrokeshire  
 SA68 0NP  
  
 Tel: 07896 204093
- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:**  
 Members of the public seeking specific information on poisons should contact:  
 In England and Wales: NHS 111 - dial 111  
 In Scotland: NHS 24 - dial 111

### 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 organs through prolonged or repeated exposure.

- **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-determining components of labelling:**  
 Potassium iodide  
 Iodine
- **Hazard statements**  
 H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P314 Get medical advice/attention if you feel unwell.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Aqueous solution of the substance(s) listed below.

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· <b>Dangerous components:</b>		
CAS: 7681-11-0 EINECS: 231-659-4 Reg.nr.: 01-2119906339-35-XXXX 01-2119966161-40-XXXX	Potassium iodide ⚠ STOT RE 1, H372; ⚠ Eye Irrit. 2, H319	2.5 – < 10%
CAS: 7553-56-2 EINECS: 231-442-4 Reg.nr.: 01-2119485285-30-XXXX	Iodine ⚠ STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5 – < 10%

· **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:** 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.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Check for and remove any contact lenses.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; call for medical help immediately.  
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- **Information for doctor:** Treat symptomatically and supportively.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Iodine compounds
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.  
Wear fully protective suit.
- **Additional information**  
Cool endangered receptacles with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

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### SECTION 6: Accidental release measures

#### · 6.1 Personal precautions, protective equipment and emergency procedures

Particular danger of slipping on leaked/spilled product.

Wear protective equipment. Keep unprotected persons away.

#### · 6.2 Environmental precautions:

Do not allow to penetrate the ground/soil.

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

#### · 6.3 Methods and material for containment and cleaning up:

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Ensure adequate ventilation.

#### · 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

#### · 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

#### · Information about fire - and explosion protection: Keep respiratory protective device available.

#### · 7.2 Conditions for safe storage, including any incompatibilities

##### · Storage:

##### · Requirements to be met by storerooms and receptacles: Prevent any seepage into the ground.

##### · Information about storage in one common storage facility: Store away from oxidising agents.

##### · Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

##### · Storage class: 12

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

### SECTION 8: Exposure controls/personal protection

#### · 8.1 Control parameters

#### · Additional information about design of technical facilities: No further data; see section 7.

#### · Ingredients with limit values that require monitoring at the workplace:

##### 7553-56-2 Iodine

WEL Short-term value: 1.1 mg/m<sup>3</sup>, 0.1 ppm

#### · DNELs

##### 7681-11-0 Potassium iodide

Oral	DNEL Long-term systemic effects	10 µg/kg bw/day (general population)
	DNEL Short-term systemic effects	10 µg/kg bw/day (general population)
Dermal	DNEL Long-term systemic effects	50 µg/kg bw/day (general population) 140 µg/kg bw/day (worker)
	DNEL Long-term systemic effects	35 µg/m <sup>3</sup> (general population) 70 µg/m <sup>3</sup> (worker)

##### 7553-56-2 Iodine

Dermal	DNEL Long-term systemic effects	10 µg/kg bw/day (worker)
Inhalative	DNEL Short-term local effects	1 mg/m <sup>3</sup> (worker)
	DNEL Long-term systemic effects	70 µg/m <sup>3</sup> (worker)

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· **PNECs****7681-11-0 Potassium iodide**

PNEC Freshwater	7.5 – 597 µg/L
PNEC Freshwater - Intermittent releases	75 – 1,000 µg/L
PNEC Marine water	59.7 µg/L
PNEC Marine Water - Intermittent releases	100 µg/L
PNEC Sewage Treatment Plant	21.94 mg/L
PNEC Sediment (freshwater)	7.5 – 2,940 µg/kg
PNEC Sediment (marine water)	294 µg/kg
PNEC Soil	237 µg/kg
PNEC Secondary poisoning	300 µg/kg food

**7553-56-2 Iodine**

PNEC Freshwater	130 – 51,700 ng/L
PNEC Freshwater - Intermittent releases	1.3 – 500 ng/L
PNEC Marine water	13 – 22,000 ng/L
PNEC Marine Water - Intermittent releases	13 – 51.7 ng/L
PNEC Sewage Treatment Plant	11 – 61 mg/L
PNEC Sediment (freshwater)	0.489 – 2,110 µg/kg
PNEC Sediment (marine water)	48.9 – 242,000 ng/kg
PNEC Soil	10 – 2,700 µg/kg

· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Take note of assigned Workplace Exposure Limits.

Avoid contact with the eyes and skin.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Do not eat, drink, smoke or sniff while working.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.· **Protection of hands:**

Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

Break-through time: &gt;480 minutes

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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## · Eye protection:



Tightly sealed goggles conforming to EN166.

## · Body protection:



Protective work clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

## · Limitation and supervision of exposure into the environment

Do not allow to enter drains, sewers or watercourses.

· Risk management measures The operators shall be instructed adequately.

### SECTION 9: Physical and chemical properties

## · 9.1 Information on basic physical and chemical properties

## · General Information

## · Appearance:

Form:	Liquid
Colour:	Red-brown
Odour:	Mild
Odour threshold:	Not determined.

· pH-value: Not determined.

## · Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C

· Flash point: Not applicable.

· Flammability (solid, gas): Not applicable.

· Decomposition temperature: Not determined.

· Ignition temperature: Product is not self-igniting.

· Explosive properties: Product does not present an explosion hazard.

## · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not determined.

Density at 20 °C:	1.25 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with water: Fully miscible.

· Partition coefficient: n-octanol/water: Not determined.

## · Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

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- |                                       |  |
|---------------------------------------|--|
| <b>· Solvent content:</b><br>VOC (EC) | 0.00 %                                     |
| <b>· 9.2 Other information</b>        | No further relevant information available. |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Heat and static discharge.
- **10.5 Incompatible materials:**
  - Strong acids.
  - Strong bases.
  - Strong oxidising agents.
- **10.6 Hazardous decomposition products:** Iodine compounds

### SECTION 11: Toxicological information

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

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

##### ATE (Acute Toxicity Estimates)

Oral	LD50	16,667 mg/kg
Dermal	LD50	47,500 mg/kg (rabbit)
Inhalative	LC50/4 h	> 152.67 mg/l (rat)

##### 7681-11-0 Potassium iodide

Oral	LD50	> 2,000 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rabbit)

##### 7553-56-2 Iodine

Dermal	LD50	1,425 mg/kg (rabbit)
Inhalative	LC50/4 h	> 4.58 mg/l (rat)

- **Primary irritant effect:**
- **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.
- **Subacute to chronic toxicity:** Prolonged or repeated skin contact may irritate and cause dermatitis.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
  - May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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### SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

7553-56-2 Iodine

EC50 (96 h) 0.59 mg/l (Bacteria)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** Contains components with the potential to bioaccumulate.

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

##### · Additional ecological information:

##### · General notes:

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

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

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

##### · 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

#### · 13.1 Waste treatment methods

##### · Recommendation

Recommended Hierarchy of Controls:

- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

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

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

##### · European waste catalogue

16 03 03*	inorganic wastes containing hazardous substances
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##### · Uncleaned packaging:

##### · Recommendation:

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

Disposal must be made according to official regulations.

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

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

### SECTION 14: Transport information

#### · 14.1 UN-Number

· ADR/RID/ADN, IMDG, IATA

Not applicable

#### · 14.2 UN proper shipping name

· ADR/RID/ADN, IMDG, IATA

Not applicable

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· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR/RID/ADN, ADN, IMDG, IATA</b>	
· <b>Class</b>	Not applicable
· <b>14.4 Packing group</b>	
· <b>ADR/RID/ADN, IMDG, IATA</b>	Not applicable
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	Not applicable

### SECTION 15: Regulatory information

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

- **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.

- **Directive 2012/18/EU**

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

- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

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

None of the ingredients is listed.

- **REGULATION (EU) 2019/1148**

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

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

### SECTION 16: Other information

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.

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- **Relevant phrases**

H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.  
 H335 May cause respiratory irritation.  
 H372 Causes damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.

- **Training hints**

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

- **Department issuing SDS:** Product safety department.

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 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  
 vPvB: very Persistent and very Bioaccumulative  
 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  
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1  
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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