

SECTION 1: Identification

1.1. Product identifier

Trade name : POTASSIUM IODIDE
 EC-No. : 231-659-4
 CAS-No. : 7681-11-0
 Product code : 116155xxx
 Formula : KI

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

Recommended uses and restrictions : For laboratory use only

1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number : +27 11 452 1116

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 5 H303
 Acute toxicity (dermal), Category 5 H313
 Hazardous to the aquatic environment — H401
 Acute Hazard, Category 2
 Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Signal word (GHS-ZA) : Warning
 Hazard statements (GHS-ZA) : H303 - May be harmful if swallowed
 H313 - May be harmful in contact with skin
 H401 - Toxic to aquatic life
 Precautionary statements (GHS-ZA) : P273 - Avoid release to the environment.
 P312 - Call a POISON CENTER or doctor if you feel unwell.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Harmful in contact with skin, Harmful if swallowed, Toxic to aquatic life

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
potassium iodide (Main constituent)	(CAS-No.) 7681-11-0	≥ 99	Acute Tox. 5 (Oral), H303 Acute Tox. 5 (Dermal), H313 Aquatic Acute 2, H401

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice. Call a poison center or a doctor if you feel unwell.
 First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

POTASSIUM IODIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

First-aid measures after skin contact	: Rinse with water. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists. Wash skin with plenty of water. Take off contaminated clothing.
First-aid measures after eye contact	: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth with water. Do not apply (chemical) neutralizing agents without medical advice. Call Poison Information Centre (www.big.be/antigif.html). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: No effects known.
Symptoms/effects after skin contact	: Red skin. Itching. Swelling of the skin.
Symptoms/effects after eye contact	: No effects known.
Symptoms/effects after ingestion	: Nausea. Vomiting. Diarrhoea. Abdominal pain.
Chronic symptoms	: Thyroid enlargement/affection. Body temperature rise. Gastrointestinal complaints. Feeling of weakness. Loss of weight. Sleeplessness. Skin rash/inflammation. Irritation of the nasal mucous membranes. Runny nose. Respiratory difficulties. Possible oedema of the upper respiratory tract. Possible inflammation of the respiratory tract. Possible laryngeal spasm/oedema. Increased salivation. Inflammation/affection of the gums. Inflammation/damage of the eye tissue. Lacrimation. Enlargement of the lymph glands.
Potential adverse human health effects and symptoms	: Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Adapt extinguishing media to the environment for surrounding fires. Water spray. Dry powder. Foam.
------------------------------	------------------------------------------------------------------------------------------------------

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: DIRECT EXPLOSION HAZARD: No direct explosion hazard. INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: On burning: release of toxic and corrosive gases/vapours (hydrogen iodide).

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.
Protection during firefighting	: Heat/fire exposure: compressed air apparatus (EN 136 + EN 137). Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Protective equipment	: Gloves (EN 374). Safety glasses (EN166). Protective clothing (EN 14605 or EN 13034). Dust cloud production: compressed air apparatus (EN 136 + EN 137). Reactivity hazard: compressed air apparatus (EN 136 + EN 137). Reactivity hazard: gas-tight suit (EN 943).
Emergency procedures	: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
----------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------

6.2. Environmental precautions

Avoid release to the environment.

POTASSIUM IODIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

6.3. Methods and material for containment and cleaning up

For containment	: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water. Collect spillage.
Methods for cleaning up	: Mechanically recover the product. Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	: Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment.
Hygiene measures	: Observe very strict hygiene - avoid contact. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool.
Storage area	: Store in a dry area. Store in a dark area. Keep container in a well-ventilated place. Limited time of storage. Store only in a limited quantity. May be stored under argon. Keep locked up. Meet the legal requirements.
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. metals. water/moisture.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. hermetical. watertight. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: cardboard. stainless steel. plastics. glass. MATERIAL TO AVOID: aluminium. copper. tin. nickel. bronze.
Storage temperature	: 15 – 30 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing	: GIVE GOOD RESISTANCE: viton. butyl rubber. neoprene. PVC
Hand protection	: Protective gloves against chemicals (EN 374)
Eye protection	: Safety glasses (EN166). In case of dust production: protective goggles (EN 166)
Skin and body protection	: Protective clothing (EN 14605 or EN 13034)
Respiratory protection	: Dust production: dust mask with filter type P3. High dust production: compressed air apparatus (EN 136 + EN 137)

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder. Grains. Little spheres.
Molecular mass	: 166.01 g/mol
Colour	: Colourless to white. On exposure to air: yellow to brown.

POTASSIUM IODIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

Odour	: Odourless.
Odour threshold	: No data available
pH	: 7 – 9 (Aqueous solution)
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 681 °C
Freezing point	: Not applicable
Boiling point	: 1323 °C
Flash point	: Not applicable (inorganic)
Auto-ignition temperature	: > 1300 °C (Not determined)
Decomposition temperature	: No data available in the literature
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: 0.01 hPa (731 °C)
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available in the literature
Relative density	: 3.12 (20 °C)
Relative density of saturated gas/air mixture	: No data available
Density	: 3120 kg/m ³ (20 °C)
Relative gas density	: No data available
Solubility	: Soluble in water. Soluble in glycerol. Soluble in ammonia. Water: 143 g/100ml (25 °C) Ethanol: 2 g/100ml Acetone: 1.3 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: Not applicable (solid)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

VOC content	: Not applicable (inorganic)
Other properties	: Hygroscopic.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Unstable on exposure to light. Unstable on exposure to air. Hygroscopic.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Decomposes slowly on exposure to light and on exposure to air: release of harmful/irritant gases/vapours (iodine). Reacts violently on exposure to (strong) acids: release of corrosive products (hydrogen iodide). Reacts violently with (strong) oxidizers: release of harmful/irritant gases/vapours (iodine).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: May be harmful if swallowed.
Acute toxicity (dermal)	: May be harmful in contact with skin.
Acute toxicity (inhalation)	: Not classified

POTASSIUM IODIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

POTASSIUM IODIDE (7681-11-0)	
LD50 oral rat	2779 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 - 14 day(s))
LD50 dermal rabbit	3160 mg/kg (Rabbit, Literature, Dermal)

Skin corrosion/irritation	: Not classified pH: 7 – 9 (Aqueous solution)
Serious eye damage/irritation	: Not classified pH: 7 – 9 (Aqueous solution)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. Toxic to aquatic life.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Toxic to crustacea. Not harmful to fishes. Groundwater pollutant. Not harmful to algae.
Hazardous to the aquatic environment, short-term (acute)	: Toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

POTASSIUM IODIDE (7681-11-0)	
LC50 fish 1	3780 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across, Lethal)
EC50 Daphnia 1	7.5 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)

12.2. Persistence and degradability

POTASSIUM IODIDE (7681-11-0)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

POTASSIUM IODIDE (7681-11-0)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

POTASSIUM IODIDE (7681-11-0)	
Mobility in soil	No additional information available
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
-------------------------	-----------------------------------------------------------------------------------------------

POTASSIUM IODIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN) : Not subject

- IMDG

Transport regulations (IMDG) : Not subject

- IATA

Transport regulations (IATA) : Not subject

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 28/02/2020

Revision date : 28/02/2025

Full text of H-statements:

H303	May be harmful if swallowed
H313	May be harmful in contact with skin
H401	Toxic to aquatic life

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.