IODINE RESUBLIMED

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

Issue date:03/07/2020 Revision date: 03/07/2025 : Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Trade name	:	IODINE RESUBLIMED
EC-No.	:	231-442-4
EC Index-No.	:	053-001-00-3
CAS-No.	:	7553-56-2
UN-No. (ADR)	:	3495
Product code	:	109030xxx
Formula	:	I2

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 (dermal), Category 4	H312
Acute toxicity (inhal.), Category 4	H332
Hazardous to the aquatic environment — Acute Hazard, Category 2	H401

Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :

GHS07

Signal word (GHS-ZA) : Warning

Hazard statements (GHS-ZA) : H312+H332 - Harmful in contact with skin or if inhaled
H401 - Toxic to aquatic life

Precautionary statements (GHS-ZA) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 - Call a POISON CENTER or doctor if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P362+P364 - Take off contaminated clothing and wash it before reuse.
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 inhaled,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
iodine (Main constituent)	(CAS-No.) 7553-56-2	≥ 99.8	Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 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 : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. 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. Doctor: administration of corticoid spray. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash immediately with lots of water. Do not apply (chemical) neutralizing agents without medical advice. Soap may be used. 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 immediately with plenty of 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. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. 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. 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 : AFTER INHALATION OF DUST: Coughing. Dry/sore throat. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema.

Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Destruction of tissue.

Symptoms/effects after eye contact : ON CONTINUOUS EXPOSURE/CONTACT: Corrosion of the eye tissue. Inflammation/damage of the eye tissue.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Burns to the gastric/intestinal mucosa. Nausea. Abdominal pain. Diarrhoea. Low arterial pressure. Shock. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible laryngeal spasm/oedema. Decreased renal function. Change in urine output.

Chronic symptoms : Skin rash/inflammation. Dry/sore throat. Possible inflammation of the respiratory tract. Loss of weight. Thyroid enlargement/affection. Enlargement of the lymph glands.

Potential adverse human health effects and symptoms : Odour threshold is well above the exposure limit. Harmful in contact with skin. Harmful if inhaled.

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 : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. 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. Face shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit.

Emergency procedures : Ventilate spillage area. Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation. Avoid contact with skin, eyes and clothing. Avoid breathing dust/fume/gas/mist/vapours/spray.

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. Prevent soil and water pollution. Prevent spreading in sewers.

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. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Collect spillage.

Methods for cleaning up : Mechanically recover the product. Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. 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 : Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray.

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 cool area. Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Meet the legal requirements.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) bases. metals. metal powders.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: glass. MATERIAL TO AVOID: metal. steel. iron. zinc.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

IODINE RESUBLIMED (7553-56-2)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Iodine
OEL STEL (mg/m³)	1 mg/m³
OEL STEL (ppm)	0 ppm
Regulatory reference	Government Notice. R: 1179

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: butyl rubber. neoprene. nitrile rubber. polyethylene
Hand protection	:	Gloves
Eye protection	:	Face shield
Skin and body protection	:	Protective clothing. In case of dust production: dustproof clothing
Respiratory protection	:	Dust production: dust mask with filter type P3. [In case of inadequate ventilation] wear respiratory protection.

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. Powder. Grains. Scales.
Molecular mass	:	253.81 g/mol
Colour	:	Metallic violet-black.
Odour	:	Irritating/pungent odour.
Odour threshold	:	No data available
pH	:	5.4
pH solution	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	114 °C
Freezing point	:	Not applicable
Boiling point	:	184 °C (1013 hPa)
Flash point	:	Not applicable
Critical temperature	:	512 °C
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	0.31 hPa (25 °C)
Vapour pressure at 50 °C	:	No data available
Relative vapour density at 20 °C	:	8.8
Relative density	:	4.93 (20 °C)
Relative density of saturated gas/air mixture	:	No data available
Density	:	4930 kg/m³ (20 °C)
Relative gas density	:	No data available
Solubility	:	Insoluble in water. Substance sinks in water. Soluble in ethanol. Soluble in ether. Soluble in chloroform. Soluble in tetrachloromethane. Soluble in methanol. Soluble in carbondisulfide. Water: 0.033 g/100ml (25 °C) Ethanol: 21 g/100ml Ether: 27 g/100ml
Partition coefficient n-octanol/water (Log Pow)	:	2.49 (QSAR, 20 °C)
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
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

Specific conductivity	:	13000 pS/m (110 °C)
Saturation concentration	:	3.6 g/m³
VOC content	:	Not applicable (inorganic)
Other properties	:	Gas/vapour heavier than air at 20°C. May sublimate. Acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with many compounds e.g.: with (strong) reducers, with combustible materials, with (some) bases and with (some) metal powders: (increased) risk of fire/explosion.

10.2. Chemical stability

Stable under normal conditions.

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

On heating: release of harmful/irritant gases/vapours (iodine).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Harmful in contact with skin.
Acute toxicity (inhalation)	:	Harmful if inhaled.

IODINE RESUBLIMED (7553-56-2)	
LD50 dermal rabbit	1425 – 2000 mg/kg bodyweight (EPA OPPTS 870.1200: Acute Dermal Toxicity, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	> 4.588 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

Skin corrosion/irritation	:	Not classified pH: 5.4
Serious eye damage/irritation	:	Not classified pH: 5.4
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	:	Odour threshold is well above the exposure limit. Harmful in contact with skin. Harmful if inhaled.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Dangerous for the environment. 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	:	Very toxic to crustacea. Toxic to fishes. Inhibition of activated sludge. Very toxic to algae.
Hazardous to the aquatic environment, short-term (acute)	:	Toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	:	Not classified

IODINE RESUBLIMED (7553-56-2)	
LC50 fish 1	1.67 mg/l (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Lethal)
EC50 72h algae (1)	0.13 mg/l (OECD 201: Alga, Growth Inhibition Test, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)
Partition coefficient n-octanol/water (Log Pow)	2.49 (QSAR, 20 °C)
Partition coefficient n-octanol/water (Log Koc)	0.21 (log Koc, Calculated value)

12.2. Persistence and degradability

IODINE RESUBLIMED (7553-56-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

IODINE RESUBLIMED (7553-56-2)	
Partition coefficient n-octanol/water (Log Pow)	2.49 (QSAR, 20 °C)
Partition coefficient n-octanol/water (Log Koc)	0.21 (log Koc, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

IODINE RESUBLIMED (7553-56-2)	
Mobility in soil	No additional information available
Partition coefficient n-octanol/water (Log Pow)	2.49 (QSAR, 20 °C)
Partition coefficient n-octanol/water (Log Koc)	0.21 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

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.

Product/Packaging disposal recommendations : Do not discharge into drains or the environment. 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. Recycle/reuse. Remove to an authorized dump (Class I).

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		
3495	3495	3495
14.2. Proper Shipping Name		
IODINE	IODINE	Iodine
14.3. Transport hazard class(es)		
8 (6.1)	8 (6.1)	8 (6.1)
		 Not applicable
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No :	Dangerous for the environment : No

SANS	IMDG	IATA
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN)	:	Subject to the provisions
Special provisions (SANS)	:	279
Limited quantities (SANS)	:	5 kg
Limited quantities (SANS)	:	5 kg
Packagings, large packagings and IBCs Packing instructions (SANS)	:	P002, IBC08
Packagings, large packagings and IBCs Special packing instructions (SANS)	:	B3
Portable tank and bulk containers instructions (SANS)	:	T1
Portable tank and bulk container special provisions (SANS)	:	TP33

- IMDG

Transport regulations (IMDG)	:	Subject to the provisions
Special provisions (IMDG)	:	279
Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	T1
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	:	S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	:	B
Properties and observations (IMDG)	:	Bluish-black solid with a metallic lustre and a pungent odour. Melting point: 114°C. Below its melting point, may evolve vapours which are irritating to skin, eyes and mucous membranes. Slightly soluble in water but soluble in most organic solvents. Corrosive to most metals.

- IATA

Transport regulations (IATA)	:	Subject to the provisions
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y845
PCA limited quantity max net quantity (IATA)	:	5kg
PCA packing instructions (IATA)	:	860
PCA max net quantity (IATA)	:	25kg
CAO packing instructions (IATA)	:	864
CAO max net quantity (IATA)	:	100kg
Special provisions (IATA)	:	A113, A803
ERG code (IATA)	:	8P

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

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Full text of H-statements:

H312	Harmful in contact with skin.
H332	Harmful if inhaled.

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 ntended 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.