

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

1.1 Product identifier

Product name	IODINE (RESUBLIMED)
CAS-No.	7553-56-2
Product code	AR1113

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

Identified uses	Chemical for analysis and production.
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1.3 Details of the supplier of the safety data sheet

Company	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

1.4 Emergency Telephone Number

Emergency phone	(662) 613-7911-4
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Specific target organ toxicity - repeated exposure, Oral (Category 1), Thyroid, H372
Acute aquatic toxicity (Category 1), H400
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

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

Precautionary statement(s)

P261	Avoid breathing dusts/vapours.
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P264	Wash hand thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
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.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P319	Get medical help if you feel unwell.
P332 + P317	If skin irritation occurs: Get medical help.
P337 + P317	If eye irritation persists: Get medical help.
P362 + P364	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms -

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
7553-56-2	231-442-4	053-001-00-3	I ₂	253.81 g/mol	>99

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Concentration	Classification
Iodine		
CAS-No 7553-56-2	>99%	Acute toxicity, Inhalation (Category 4), H332
EC-No 231-442-4		Acute toxicity, Dermal (Category 4), H312
EC-Index-No 053-001-00-3		Skin irritation (Category 2), H315
		Eye irritation (Category 2), H319
		Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
		Specific target organ toxicity - repeated exposure, Oral (Category 1), Thyroid, H372
		Acute aquatic toxicity (Category 1), H400

For the full text of the H-Statements mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors or dust. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.

Ingestion	Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.
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4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

4.3 Indication of any immediate medical attention and special treatment needed

After swallowing: immediately make victim drink water (two glasses at the most). Laxative: Sodium sulfate 1 tablespoon/ 250ml of water.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

In adaption to materials stored in the immediate neighborhood.

5.2 Special hazards arising from the substance or mixture

Non-combustible. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: hydrogen iodide.

5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. Avoid contact with skin and wear suitable protective clothing.

5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid generation of dusts; do not inhale dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protective equipment see **Section 8**.

6.2 Environmental precautions

Do not allow to enter drinking water and sewerage system.

6.3 Methods and materials for containment and cleaning up

Carefully sweep up, gather and remove. Avoid generation of dusts. Keep in suitable, closed containers for disposal. Clean up affected area.

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of good ventilation in the working area. Do not leave container open. Avoid spillage. Avoid rising dust.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep out of direct sunlight and away from heat, water, moisture and incompatible materials.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

Application Area	Health Effects	Exposure	Value
Worker	Acute Systemic effects	Inhalation	1 mg/m ³
Worker	Acute Systemic effects	Skin contact	0.01 mg/m ³
Worker	Long-term Systemic effects	Inhalation	0.07 mg/m ³
Consumer	Long-term Systemic effects	Skin contact	0.01 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0.01813 mg/l
Fresh water sediment	3.99 mg/kg
Marine sediment	20.22 mg/kg
Marine water	0.06001 mg/l
Sewage treatment plant	11 mg/l
Soil	5.95 mg/kg

8.2 Exposure controls

Appropriate engineering controls

The product should only be used in ventilation hoods and fans.

Individual protection measures (Personal protective equipment, PPE)

Eye/face protection

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / corrosive protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from nitrile rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when dusts are generated filter P2 (EN 143) or use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Form	Solid
: Color	Dark violet
Odour	Odorless
Odour Threshold	Not Available
pH	5.4 (saturated solution)
Melting point/range	114 °C

Boiling point/range	185 °C
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available
upper	Not Available
Vapor Pressure	0.41 hPa at 25°C
Relative Vapor Density	8.8
Density	4.93 g/cm ³ at 20°C
Bulk density:	~2100 kg/m ³
Water solubility	0.3 g/l at 20°C
Partition coefficient (n-octanol/water)	log Pow: 2.49
Auto-Ignition temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	2.27 mPa.s at 116°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

SECTION 10: Stability and reactivity

10.1 Reactivity

Not Available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion in contact with alkali metals, ammonia, acetylene, ammonia compounds, dichlorine heptoxide, difluorine oxide, potassium iodide, copper tetraamine sulfate, mercuric oxide/ methanol, mercuric oxide/ethanol, distillation, oxygen difluoride/ heat, silver azide, trioxxygen difluoride.

The substance can react dangerously with fluorine, combustible substances, phosphorus, acetaldehyde, aluminium powder/ humid, aluminium/ ether, benzene, bromine pentafluoride, bromine trifluoride, butadiene, caesium oxide (heat), calcium hydride (heat), chlorine / liquid/iodine/ liquid, chlorine trifluoride, dioxygen difluoride, iron powder, ethanol/ mercuric oxide, fluorides, formic aldehyde, potassium + heat, hydrides, lithium, lithium silicide, magnesium (powder, humid), metal acetylide/ carbide, heat, sodium phosphinate, nitrides, phosphorus pentoxide, sulfur(rarely), turpentine, titanium/ heat, zinc (powder, humid).

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Alkali metals, ammonia, ammonium compounds, nonmetallic oxides, nonmetals, halogen-halogen compounds, acetylidene, semimetals, metals in powder form, aluminium, acetylene, carbides, fluorine, magnesium, lithium silicide, azides, turpentine oils and/or turpentine substitutes, alkali oxides.

10.6 Hazardous decomposition products

Hydrogen iodide (Hazardous decomposition products from under fire condition).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD₅₀ (oral, rat): 14000 mg/kg

LC₅₀ (inhalation, rat): >4588 mg/l

LC₅₀ (dermal, rat): 1425 mg/kg

Acute oral toxicity

Symptoms: bloody diarrhoea, fever and collapse.

Acute inhalation toxicity

Symptoms: irritation symptoms in the respiratory tract, severe irritations of mucous membrane.

Skin corrosion/irritation

Cause serious skin irritations, dermatitis, danger of skin absorption.

Serious eye damage/eye irritation

Cause serious eyes irritations.

Respiratory or skin sensitization

Not Available

Germ cell mutagenicity

Bacterial mutagenicity: Escherichia coli is negative.

Carcinogenicity

Noncarcinogenic in animal experiments.

Reproductive toxicity

Not Available

Teratogenicity

Not Available

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

Causes damage to organs (Thyroid) through prolonged or repeated exposure if swallowed.

Aspiration hazard

Not Available

Further information

Chronic intoxication: Skin lesions and allergic reactions with rhinitis, conjunctivitis, bronchitis and asthma.
The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC₅₀ Oncorhynchus mykiss: 0.53 mg/l/96h.

Toxicity to daphnia

EC₅₀ Daphnia magna: 0.33 mg/l/48h.

and other aquatic invertebrates

12.2 Persistence and degradability

Biodegradability

Method for the determination of biodegradability are not applicable to inorganic substance

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water)

log Pow: 2.49

No appreciable bioaccumulation potential is to be expected (log Po/w 1-3).

12.4 Mobility in soil

Not Available

12.5 Other adverse effects

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information**Land Transport (ADR/RID)**

UN Number	3495
UN proper shipping name	IODINE
Transport hazard class(es)	8 (6.1)
Packing group	III
Environmental hazards	Yes
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	3495
UN proper shipping name	IODINE
Transport hazard class(es)	8 (6.1)
Packing group	III
Marine pollutant	Yes
Special precautions for user	Yes
EmS	F-A S-B

Air transport (IATA)

UN Number	3495
UN proper shipping name	IODINE
Transport hazard class(es)	8 (6.1)
Packing group	III
Environmental hazards	Yes
Special precautions for user	No

River transport (AND/ADNR)

(Not examined)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

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

Recommended restrictions

Take notice of labels and safety data sheets for the working.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to RCI Labscan Limited.

Revision Date

01/09/2021

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.