



Safety Data Sheet

Date of Issue: 25.07.2023

Date of Expiry: 25.07.2028

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : ECP Limited
Address : PO Box 34125, Birkenhead, Auckland 0746
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Emergency phone number : 0800 243 622 (24 hours)

Product Name	Iodine
Product Code	27701
CAS No.	7553-56-2

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Skin corrosion/irritation (Category 1C), H314
Serious eye damage/eye irritation (Category 1), H318
Skin sensitization (Category 1), H317
Specific target organ toxicity - single exposure, Oral (Category 2), H371
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Specific target organ toxicity - repeated exposure, Oral (Category 1), Thyroid, H372
Hazardous to the aquatic environment - acute hazard (Category 1), H400
Hazardous to the aquatic environment - chronic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word : **Danger**

Hazard statement(s)

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H371 May cause damage to organs if swallowed.
H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure if swallowed.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention

P260 Do not breathe dust.

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P391 Collect spillage.

2.3 Other hazards - none

3: Composition/information on ingredients

3.1 Substances

Formula	:	I2
Molecular weight	:	253.81 g/mol
CAS-No.	:	7553-56-2
EC-No.	:	231-442-4
Index-No.	:	053-001-00-3

4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Hydrogen iodide

Not combustible.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Handle and store under inert gas. Hygroscopic.

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

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

8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits Table

Component	CAS No.	Value	Control parameters	Basis
Iodine	7553-56-2	WES Ceiling	0.1 ppm 1 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
		WES- TWA	0.01 ppm 0.05 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Physical state : solid
- b) Color : black, violet
- c) Odor : pungent
- d) Melting point/freezing point
- Melting point/range : 113 °C - lit.

e) Initial boiling point and boiling range:	184 °C - lit.
f) Flammability (solid, gas)	: The product is not flammable.
g) Upper/lower flammability or explosive limits	: No data available
h) Flash point	: No data available
i) Autoignition temperature	: No data available
j) Decomposition temperature	: No data available
k) pH	: 5.4
l) Viscosity	: Viscosity, kinematic: No data available
	: Viscosity, dynamic: No data available
m) Water solubility	: 0.3 g/l at 25 °C - slightly soluble
n) Partition coefficient: n-octanol/water	: No data available
o) Vapor pressure	: 0.41 hPa at 25 °C
p) Density	: 4.930 g/cm ³ at 20 °C
Relative density	: No data available
q) Relative vapor density	: No data available
r) Particle characteristics	: No data available
s) Explosive properties	: No data available
t) Oxidizing properties	: No data available

9.2 Other safety information

No data available

10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with:

Reducing agents, Alkali metals, Acetylene, Ammonia, Potassium, copper compounds, sodium, oxyhalogenic compounds, Boron, halogen oxides, iodides, azides, ammonium compounds, antimony in powder form, mercury oxide with Methanol and ethanol

Risk of ignition or formation of inflammable gases or vapours with:

Powdered metals, Zinc, semimetals, halogen-halogen compounds, nonmetals, nonmetallic oxides, alkali salts, Iron, Fluorine, formaldehyde, hydrides, sodium phosphite, phosphorus Sulfur, Titanium, powdered aluminium, acetylidene, combustible substances, powdered magnesium, petrol, butadiene, Diethyl ether, Aluminum.

Exothermic reaction with:

Carbides, azides, turpentine oils and/or turpentine substitutes, alkali oxides, lithium silicide alkaline earth compounds, nitrides, Acetaldehyde, Lithium, fluorides, Oxides of phosphorus Chlorine, Iron in powder form.

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 315 mg/kg

(US-EPA)

Remarks: The GHS classification specified by the authority

LC50 Inhalation - Rat - male and female - 4 h - > 4.588 mg/l - dust/mist (OECD Test guideline 403)

Remarks: (Regulation (EC) No 1272/2008, Annex VI) LD50 Dermal - Rabbit - male and female - 1,425 mg/kg

(US-EPA)

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: Moderate skin irritation

(Regulation (EC) No. 440/2008, Annex, B.46)

Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

Respiratory or skin sensitization

In animal experiments: - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test):

Test system: Mouse lymphoma test

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: In vivo micronucleus test

Species: Mouse

Application Route: Intraperitoneal

Method: Mutagenicity (micronucleus test)

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation. - Respiratory system

Specific target organ toxicity - repeated exposure

Oral - Causes damage to organs through prolonged or repeated exposure.

- Thyroid

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - female - Oral - 100 d

Remarks: (as aqueous solution)

Repeated dose toxicity - Rat - male and female - Oral - 29 - 47 d - NOAEL (No observed adverse effect level) - 10 mg/kg

RTECS: NN1575000

Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12: Ecological information

12.1 Toxicity

Toxicity to fish

static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 1.67 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 0.55 mg/l - 48 h

Remarks: (ECHA)

EC50 - *Daphnia magna* (Water flea) - 0.2 mg/l - 48 h

Toxicity to algae

Growth inhibition ErC50 - *Desmodesmus subspicatus* (green algae) - 0.13 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria

EC50 - activated sludge - 280 mg/l - 3 h

(OECD Test Guideline 209)

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	3495	3495	3495
14.2	UN Proper Shipping name	IODINE	IODINE	iodine
14.3	Transport Hazard Class	8 (6.1)	8 (6.1)	8 (6.1)
14.4	Packaging group	III	III	III
14.5	Environmental Hazards	Yes	Yes	No
14.6	Special precautions for user	none		

Other regulations

Hazchem Code : 2WE

15: Regulatory information

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

National regulatory information

HSNO Approval Code: HSR001538

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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