

Iodine (solid)**SECTION 1. IDENTIFICATION**

Product Identifier	Iodine (solid)
Other Means of Identification	Elemental iodine
Product Code(s)	IO2110, IO2120, IO2121, IO2122, IO2130
Product Family	Inorganic Solid
Recommended Use	Laboratory.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0421
Date of Preparation	March 09, 2016

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Oxidizing solid - Category 1; Acute toxicity (Dermal) - Category 4; Acute toxicity (Inhalation) - Category 4; Skin corrosion - Category 1; Serious eye damage - Category 1; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 1

Label Elements

Signal Word:
Danger

Hazard Statement(s):

May cause fire or explosion; strong oxidizer.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
Harmful if inhaled.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention:
Do not breathe dusts or mists.

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Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wash hands and skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Take any precaution to avoid mixing with combustibles.

Response:

IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Call a POISON CENTRE or doctor if you feel unwell.

Storage:

Store locked up.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

Very toxic to aquatic life.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Iodine	7553-56-2	> 99	Elemental iodine	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. If skin irritation or a rash occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor.

First-aid Comments

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result. If inhaled: can cause severe irritation of the nose and throat.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice, consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Heating increases the release of toxic vapour. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: Hydrogen Iodide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Approach fire from upwind to avoid hazardous vapours or gases. Move containers from fire area if it can be done without risk. Otherwise, use water in flooding quantities as a spray or fog to keep fire-exposed containers cool and absorb heat. Oxidizer. Prevent contact with flammable and combustible materials. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal. Before entry, especially into confined areas, use an appropriate monitor to check for: toxic gases or vapours, flammable or explosive atmosphere, sufficient oxygen.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources if safe to do so. Remove or isolate incompatible materials as well as other hazardous materials. Notify government occupational health and safety and environmental authorities.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Avoid generating dust. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Flush spill area.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid generating dusts. Avoid generating vapours or mists. Wear personal protective equipment to avoid direct contact with this chemical. Inspect container and lid carefully for damage, leaks or signs of peroxide crystallization before handling. Prevent accidental contact with incompatible chemicals. Do not weld, cut or perform hot work on empty container until all traces of product have been removed. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this material.

Conditions for Safe Storage

Store in an area that is: cool, dry, out of direct sunlight and away from heat and ignition sources, secure and separate from work areas. Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Separate from incompatible materials (see Section 10: Stability and Reactivity). Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Iodine	0.01 ppm A4	0.1 ppm	Not established	0.1 ppm		

A4 = Not classifiable as a human carcinogen.

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. For large scale use of this product: use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, neoprene rubber, nitrile rubber, Viton®.

Respiratory Protection

In case of insufficient ventilation, wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Blue - black crystals.
Odour	Bitter
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	113.6 °C (236.5 °F) (melting); 113.6 °C (236.5 °F) (freezing)
Initial Boiling Point/Range	184.4 - 185.2 °C (363.9 - 365.4 °F)
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	0.031 - 0.041 kPa at 25 °C
Vapour Density (air = 1)	8.75 (calculated)
Relative Density (water = 1)	4.93 at 20 °C
Solubility	Practically insoluble in water; Highly soluble in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	2.49
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not applicable (kinematic); Not applicable (dynamic)
Other Information	
Physical State	Solid
Molecular Weight	253.81

SECTION 10. STABILITY AND REACTIVITY

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Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

High temperatures. Sunlight. Incompatible materials.

Incompatible Materials

Ammonia, strong oxidizing agents (e.g. perchloric acid), aldehydes (e.g. acetaldehyde), strong reducing agents (e.g. hydrides). Combustible materials.

Hazardous Decomposition Products

Toxic gases and vapours.

SECTION 11. TOXICOLOGICAL INFORMATION**Likely Routes of Exposure**

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Iodine	Not available	14000 mg/kg (rat)	Not available

Skin Corrosion/Irritation

Causes severe burns.

Serious Eye Damage/Irritation

Causes serious eye damage.

STOT (Specific Target Organ Toxicity) - Single Exposure**Inhalation**

Causes severe nose and throat irritation. Toxic, can cause death.

Ingestion

Toxic, can cause death

Causes severe irritation or burns to the mouth, throat and stomach.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Thyroid function tests may show abnormal results.

Respiratory and/or Skin Sensitization

May cause an allergic skin reaction. May cause respiratory sensitization.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Iodine	Not Listed	Not Listed	Not Listed	Not Listed

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Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN3495	IODINE	8, 6.1	III
US DOT	UN3495	IODINE	8, 6.1	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

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References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has

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been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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