1. Identification

GHS Product Identifier: IODINE
Company Name: CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address: 38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number: Tel: (08) 8440-2000
Fax: (08) 8440-2001

Recommended use of the chemical and restrictions on use:
Laboratory reagent, dyes (aniline dyes, phthalein dyes), alkylation and condensation catalyst, iodides, iodates, x-ray contrast media, food and feed additive, stabilizers, photographic film, water treatment, pharmaceuticals, medicinal soaps, unsaturation indicator, germicides and antiseptics.

Other Names:
- IODINE LR
- IODINE AR

Other Information:
EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture:
- Hazardous to the Aquatic Environment - Acute Hazard: Category 1
- Acute Toxicity - Dermal: Category 4
- Acute Toxicity - Inhalation: Category 4

Signal Word(s): WARNING

Hazard Statement(s):
- H312 Harmful in contact with skin.
- H332 Harmful if inhaled.
- H400 Very toxic to aquatic life.

Pictogram(s):
Environment, Exclamation mark

Precautionary statement – Prevention:
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.

Precautionary statement – Response:
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P363 Wash contaminated clothing before reuse.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical Characterization</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
<th>Hazard Symbol</th>
<th>Risk Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients</td>
<td>Iodine</td>
<td>7553-56-2</td>
<td>100 %</td>
<td>Xn</td>
<td>R20/21</td>
</tr>
</tbody>
</table>

4. First-aid measures
Inhalation
If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.

Ingestion
Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Never give anything by mouth to an unconscious person. If swallowed, do NOT induce vomiting. Seek medical attention.

Skin
Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.

Eye contact
Maintain eyewash fountain and safety shower in work area.

First Aid Facilities
Maintain eyewash fountain and safety shower in work area.

Advice to Doctor
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

Other Information
5. Fire-fighting measures
Liberates toxic hydrogen iodide fumes in fire.

Hazards from Combustion Products
Small fire: Use dry chemical, CO2 or water spray.
Large fire: Use water spray, fog or foam - Do NOT use water jets.
If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical
Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.

Hazchem Code
2WE

Precautions in connection with Fire
Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter’s uniform is NOT effective for these materials.

6. Accidental release measures
Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 50m. Do NOT touch or walk through this product. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas.

Small spills: React with sodium thiosulfate and wash to drain with large quantities of water. Wash area down with sodium thiosulfate and then water.
Large spills: Cover with DRY earth, sand or other non-combustible material followed by plastic sheet to minimize spreading or contact with rain. Collect material in a plastic bag contained inside another plastic bag and place into loosely-covered plastic containers for later disposal. DO NOT GET WATER INSIDE CONTAINERS.

Personal Precautions
Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Personal Protection
Wear protective clothing specified for normal operations (see Section 8)

Clean-up Methods - Small Spillages
Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Environmental Precautions
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

7. Handling and storage
Work under fume extractor. Do not inhale substance. Change contaminated clothing. Wash hands after working with substance.

Storage Regulations
Refer Australian Standard AS/NZS 4452:1997 'The storage and handling of toxic substances'.
Safety Data Sheet

Product Name: IODINE

9. Physical and chemical properties

Form: Solid
Appearance: Heavy grayish-black crystals; granules with metallic lustre; brittle plates, greyish violet in colour with a metallic sheen.
Odour: Pungent odour.
Melting Point: 113.5 °C
Boiling Point: 184.5 °C
Solubility in Water: Practically insoluble.
Specific Gravity: 4.93
Vapour Pressure: 0.41 hPa @ 25 °C
Vapour Density (Air=1): 8.8
Partition Coefficient: logP(o/w): 2.49
n-octanol/water: Non combustible material.
Flammability: Readily sublimed to a violet vapour. Semiconductor.
10. Stability and reactivity

**Chemical Stability:** Stable under normal use conditions.

**Conditions to Avoid:** Incompatibilities.

**Incompatible Materials:** Alkali metals, alkali oxides, ammonia, ammonium compounds, antimony powder, acetylene, aluminium, azides, carbides, damp aluminium, ethanol/phosphorous, fluorine, halogen fluorides, halogen-halogen compounds, magnesium, nonmetallic oxides, nonmetals, semimetals, metals in powder form, lithium silicide, tetra amine copper, turpentine oils and/or turpentine substitutes, sulfate/ethanol, some metal acetylides, and zinc powders and potassium.

**Hazardous Decomposition Products:** Explosive products are produced when iodine is reacted with ammonia, tetra amine copper, sulfate/ethanol. Violent reactions occur with ethanol/phosphorous, fluorine, halogen fluorides, some metal acetylides and carbides. Mixtures of iodine with antimony powder may ignite. Mixtures of iodine with aluminium, magnesium and zinc powders ignite when damp. Mixed with potassium is a weak impact explosive.

11. Toxicological Information

**Acute Toxicity - Oral:** LD50 (rat) 14000 mg/kg.

**Ingestion:** Harmful if swallowed. Symptoms are disagreeable metallic taste, gastric upset, violent abdominal pain, bloody diarrhea, fever and severe collapse with feeble pulse. Collapse may be delayed until the second day.

**Inhalation:** Harmful if inhaled. Causes severe irritation to the mucous membrane and respiratory tract. Symptoms are similar to ingestion.

**Skin:** Slight irritation.

**Eye:** Slight irritation.

**Carcinogenicity:** No evidence of carcinogenic properties.

**Chronic Effects:** Symptoms of chronic poisoning are skin lesions, headache and allergic reactions with rhinitis, conjunctivitis, bronchitis and asthma. In severe cases there may be weakness, anaemia, loss of weight and general depression. These symptoms are normally refered to as iodism. Certain individuals are highly sensitive to iodine and iodides and the symptoms of iodism may occur after exposure to minute amounts of iodine or iodides.

**Mutagenicity:** No evidence of mutagenic properties.

12. Ecological information

**Ecotoxicity:** Very toxic to aquatic organisms.

**Persistence and degradability:** Methods for the determination of biodegradability are not applicable to inorganic substances.

**Bioaccumulative Potential:** No appreciable bioaccumulation is to be expected (log P(o/w) 1-3).

**Environmental Protection:** Do not allow product to enter drains, waterways or sewers.

**Other Information:** Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

**Disposal Considerations:** Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations.

**Waste Disposal:** Inorganic peroxides and oxidants as well as bromine and iodine should be rendered harmless by reduction with acidic aqueous sodium thiosulfate solution.

14. Transport information

**Transport Information:** Dangerous Goods of Class 8 Corrosives are incompatible in a placard load with any of the following: - Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are alkalis and Class 7; and are incompatible with food and food packaging in any
Safety Data Sheet

Classified as hazardous

Product Name: IODINE

U.N. Number: 3495
Transport hazard class(es): Class 8
Sub.Risk: Sub Risk 6.1
Transport hazard class(es): Sub Risk 2WE
Hazchem Code: III
Packing Group: 37
UN Number (Road Transport): UN 3495 proper shipping name: IODINE

15. Regulatory information

Regulatory Information: Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule: S6

16. Other Information

Literature References:
- Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
- Safe Work Australia, 'Hazardous Substances Information System, 2005'.
- Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.

Contact Person/Point:
Paul McCarthy Ph. (08) 8440 2000

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Empirical Formula: I2
Structural Formula: ...

...End Of MSDS...