1. Identification

GHS Product Identifier
- POTASSIUM IODIDE

Company Name
- CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

Address
- 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
- Reagent in analytical chemistry, photographic emulsions (precipitating Ag), feed additive, spectroscopy, infrared transmission, scintillation, dietary supplement, expectorant for treatment of chronic respiratory diseases; antifungal agent (human and vet use); iodine source in treatment of thyroid disorders; ingredient in personal hygiene products; topical deodorizing agent for livestock manure, and laboratory reagent.

Other Names
- POTASSIUM IODIDE LR
- POTASSIUM IODIDE BP/USP
- POTASSIUM IODIDE 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 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
- Not classified as hazardous according to the criteria of NOHSC.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS</th>
<th>Proportion</th>
<th>Hazard Symbol</th>
<th>Risk Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium iodide solution 33%</td>
<td>7681-11-0</td>
<td>100 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POTASSIUM IODIDE 32-34 %</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation
- Remove from exposure, rest and keep warm. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention in severe cases, or if symptoms develop.

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 area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse. If symptoms develop seek medical attention.

Eye contact
- If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek medical attention.

First Aid Facilities
- Maintain eyewash fountain and drench facilities in work area.
5. Fire-fighting measures

<table>
<thead>
<tr>
<th>Hazards from Combustion Products</th>
<th>Toxic fumes including hydrogen iodide (HI), oxides of potassium and iodine, possibly also free, orionic iodide, toxic iodine vapours and iodate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Methods</td>
<td>Use extinguishing media most appropriate for the surrounding fire.</td>
</tr>
<tr>
<td>Specific hazards arising from the chemical</td>
<td>Material does not burn. Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated.</td>
</tr>
<tr>
<td>Precautions in connection with Fire</td>
<td>Wear SCBA and structural firefighter's uniform.</td>
</tr>
</tbody>
</table>

6. Accidental release measures

<table>
<thead>
<tr>
<th>Spills &amp; Disposal</th>
<th>Vacuum or sweep up material and place into a suitable container for disposal. Provide ventilation.</th>
</tr>
</thead>
</table>

7. Handling and storage

<table>
<thead>
<tr>
<th>Precautions for Safe Handling</th>
<th>Avoid ingestion and inhalation of dust. Avoid contact with eyes, skin and clothing. Minimize dust generation and accumulation. Keep containers closed when not in use. Ensure good ventilation at the workplace. Provide appropriate exhaust ventilation at places where dust is formed. Use with adequate ventilation. If you feel unwell, seek medical attention and show the label when possible. Wear suitable protective clothing and equipment. As with all chemicals, wash hands thoroughly after handling. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet. Protect from physical damage and exposure to air, light and humidity/water/moisture. Store away from reducing agents, acids. Iodine has a persistent and irritating odour and should not be stored near odour sensitive material. Prolonged storage is not recommended because of possible degradation problems, including yellowing of the potassium iodide product. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Corrosive in presence of steel, of aluminium, of zinc. Corrosive in all concentrations to most metals, except stainless steel, titanium, and tantalum. Incompatible with water, producing a corrosive. Non-corrosive in presence of glass, of copper, of stainless steel(304), of stainless steel(316). Store below 40 °C, preferably between 15 and 25 °C, unless otherwise specified by manufacturer. Iodides should only be heated in a fume cupboard if iodine vapours are being produced.</th>
</tr>
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<tbody>
<tr>
<td>Conditions for safe storage, including any incompatibilities</td>
<td>Store in labelled, corrosion- and light-resistant, tightly closed containers, in a cool, dry, well ventilated area and isolated from incompatible substances. Air, light, and moisture sensitive - accelerate decomposition. Protect against physical damage and exposure to air, light and humidity/water/moisture. Store away from reducing agents, acids. Iodine has a persistent and irritating odour and should not be stored near odour sensitive material. Prolonged storage is not recommended because of possible degradation problems, including yellowing of the potassium iodide product. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Corrosive in presence of steel, of aluminium, of zinc. Corrosive in all concentrations to most metals, except stainless steel, titanium, and tantalum. Incompatible with water, producing a corrosive. Non-corrosive in presence of glass, of copper, of stainless steel(304), of stainless steel(316). Store below 40 °C, preferably between 15 and 25 °C, unless otherwise specified by manufacturer. Iodides should only be heated in a fume cupboard if iodine vapours are being produced.</td>
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<td>Storage Temperatures</td>
<td>Store below 40 °C, preferably between 15 and 25 °C, unless otherwise specified by manufacturer.</td>
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<tr>
<td>Additional information on precautions for use</td>
<td>Iodides should only be heated in a fume cupboard if iodine vapours are being produced.</td>
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</table>

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Other Exposure Information</th>
<th>A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by NOHSC Australia for this product. There is a blanket limit of 10 mg/m³ for dusts when limits have not otherwise been established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate engineering controls</td>
<td>In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.</td>
</tr>
</tbody>
</table>
Respiratory Protection
Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1719 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye Protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Hand Protection
Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: Vinyl, nitrile, neoprene gloves. Good: NR latex.

Body Protection
Clean clothing or protective clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hygiene Measures
Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties
Appearance
Colourless or white, cubical crystals, white to pale yellow, slightly deliquescent granules, or powder; clear, colourless to slightly yellow liquid (aqueous solution becomes yellow in time due to oxidation, but a small amount of alkali prevents it).
Odour
Odourless.
Melting Point
681 °C (solid); ~ 0 °C (11-50%w/v).
Boiling Point
1330 °C (solid); ~ 100 °C (11-50%w/v).
Solubility in Water
Very soluble, 128 g/100 ml (6 °C); 148 g/100 g water at 25 °C; 127.5 g sol in 0.5 mL boiling water; 30 g KI with 21 mL water gives 30 mL of a saturated solution at 25 °C.
Solubility in Organic Solvents
Soluble in glycerol, ether, ammonia and methanol; slightly soluble in ethanol; partially soluble in acetone; readily dissolves elemental iodine (Potassium iodide solution).
Specific Gravity
3.13 (solid); ~ 1.07-1.36 (11-50%w/v).
pH
~ 6.9 at 50 g/l H2O (20 °C), aqueous solution is neutral or usually alkaline.
Vapour Pressure
1.33 hPa (1 mm Hg) at 745 °C.
Volatile Component
0 %vol @ 21 °C
Flammability
Non combustible material.
Explosion Properties
Potassium iodide solution and fluorine perchlorate will explode on contact.
Molecular Weight
166.00
Other Information
Taste: Strong, bitter, saline taste.
Index of refraction: 1.677.

10. Stability and reactivity
Chemical Stability
Stable in dry air, under ordinary conditions of use and storage. Air sensitive. Moisture sensitive. Light sensitive. On long exposure to air becomes yellow due to release of iodine.

Conditions to Avoid
Moisture, light, dust generation, prolonged exposure to air, and incompatible materials.

Incompatible Materials
Ammonia, halogen-halogen compounds, fluorine, hydrogen peroxide, salts of alkaloids, chloral hydrate, calomel (mercurous chloride), potassium chlorate, tartaric and other acids, diazonium salts, charcoal, ozone, strong reducers, alkali metals, most metals (brass, aluminium/aluimium alloys, magnesium, zinc, cadmium, copper, tin/tin oxides, nickel, steel (all types and surface treatments)), metal powders, metallic salts, organic materials, light, oxidizing agents, water/moisture, bromine trifluoride, fluorine perchlorate,
Hazardous Decomposition Products

Diisopropyl peroxycarbonate, perchloryl fluoride, chlorine trifluoride. Toxic fumes including hydrogen iodide (HI), oxides of potassium and iodine, possibly also free, or ionic iodine, toxic iodine vapours and iodate.

Possibility of hazardous reactions


Hazardous Polymerization

Will not occur.

11. Toxicological Information

Inhalation of product dusts may cause irritation of the mucous membranes of the nose, throat and respiratory system. Symptoms may include coughing and shortness of breath. May cause respiratory sensitization. May cause pulmonary oedema and inflammation of the tonsils.

Ingestion may result in a metallic taste, increased salivary and bronchial secretions, gastrointestinal tract irritation with nausea, vomiting, diarrhoea, abdominal pain, parotitis and/or convulsions. Acute poisoning by potassium salts is likely to give rise to irritation of the throat, general stomach upset and vomiting which may lead to weakness, agitation and confusion, hypotension, paralysis and possible circulatory disturbances including cardiac arrhythmias, heart block and cardiac arrest. May affect behaviour (somnolence, muscle weakness), respiration (dyspnoea). Acute hypersensitivity reactions including angioedema, urticaria, Stevens Johnson syndrome, systemic vasculitis, serum-sickness-like reactions such as fever, arthralgia, lymph node enlargement, and eosinophilia may appear. Thrombotic thrombocytopenic purpura, and fatal periarteritis nodosa attributed to hypersensitivity to iodide has been described. Iodides have been known to cause drug-induced fevers, which are usually of short duration.

May cause irritation to skin and mucous membranes with redness, pain, and itching. May be harmful if absorbed through the skin. May cause allergic sensitization in certain individuals.

May cause irritation, redness, pain, itching and tearing.

Chronic ingestion of iodides may produce 'iodism,' which may be manifested by salivation, skin rash or eruptions, running nose, sneezing, conjunctivitis, fever, headache, irritation of mucous membranes, laryngitis, bronchitis, stomatitis and parotitis. In severe cases, the skin may show pimples, boils, redness, hives, blisters and black and blue spots, and various cutaneous manifestations, including erythema nodosum, polymorphic eruptions, urticaria, vasculitis, and petechia, and weakness, anaemia, weight loss and general depression may also occur. These symptoms affect certain individuals who are highly sensitive to iodides and they may occur after exposure to minute amounts of iodine or iodides. Chronic ingestion may also affect metabolism (anorexia), and thyroid gland (hypothyroidism, goiter and rarely hyperthyroidism). Furthermore, chronic ingestion of iodides (in animals) during pregnancy has resulted in foetal deaths, severe goiter and cretinoid appearance of the newborn.


Potassium Iodide has been investigated as a reproductive effector. Reproductive effects have been observed on tests with laboratory animals. Reproductive effects have been observed on tests with humans. Possible risk of harm to the unborn child. Iodides are readily diffused across the placenta. Potassium iodide is distributed into human breast milk. Exposure to excessive amounts of iodine during pregnancy is capable of producing foetal hypothyroidism. Cretinism and goiter have been reported in children born to mothers chronically taking iodides during pregnancy. Neonatal deaths from respiratory distress secondary to goiter have been reported. Potassium iodide has been shown to produce foetotoxicity in newborns.

Reproductive effects, TDLo (woman) 2700 mg/kg (1 - 39 w preg): Specific
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Product Name POTASSIUM IODIDE

Not classified as hazardous

Mutagenicity
- developmental abnormality (endocrine system).
- Bacterial mutagenicity: Salmonella typhimurium: negative, Escherichia coli: negative.
- Mutagenic for mammalian somatic cells.
- Mutagenic effects have occurred in experimental animals.

Carcinogenicity
- Not listed in the IARC Monographs.

12. Ecological information

Ecological Information
- No ecological problems are to be expected when the product is handled and used with due care and attention.
- Methods for the determination of biodegradability are not applicable to inorganic substances.
- While data specific to potassium iodide were not located, the literature suggests that some pharmaceutically active compounds originating from human and veterinary therapy are not eliminated completely in municipal sewage treatment plants and are therefore discharged into receiving waters.
- Wastewater treatment processes often were not designed to remove them from the effluent. Selected organic waste compounds may be degrading to new and more persistent compounds that may be released instead of or in addition to the parent compound. Studies have indicated that several polar pharmaceutically active compounds can leach through subsoils into aquifers.

Persistence and degradability
- Onchorhynchus mykiss LC50: 3200 mg/l /120 h.
- Maximum permissible toxic concentration: Sc. quadricauda IC5: 2370 mg/l (sodium salt).
- Maximum permissible toxic concentration: Ps. putida EC5: 614 mg/l (sodium salt).

13. Disposal considerations

Disposal Considerations
- Dispose of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information
- Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. Regulatory information

Poisons Schedule
- Not Scheduled

16. Other information

Literature References
- Standards Australia 'AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids.
- Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]'.
- Worksafe Australia, 'Hazardous Substances Information System, 2005'.
- Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]'.

Contact Person/Point of Contact
- Lewis, Richard J. Sr., Ph. (08) 8440 2000
- Paul McCarthy Ph. (08) 8440 2000

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Empirical Formula & Structural Formula

User Codes

<table>
<thead>
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