Material Safety Data Sheet
Iodine solution

ACC# 89222

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Iodine solution  
**Catalog Numbers:** BP2707-250, BP2707-60, BP2707-60A, BP2707-60C, BP2707250, BP270760, BP2710-1G, BP2710-250, BP2710250, BP27104, 2300584, 2300585, 23281407B, 66770  
**Synonyms:** Mixture.  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
For information, call: 201-796-7100  
Emergency Number: 201-796-7100  
For CHEMTREC assistance, call: 800-424-9300  
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Deionized water</td>
<td>&gt;85</td>
<td>231-791-2</td>
</tr>
<tr>
<td>25655-41-8</td>
<td>Poly(vinylpyrrolidone)-iodine complex</td>
<td>&lt;13</td>
<td>unlisted</td>
</tr>
<tr>
<td>7681-11-0</td>
<td>Potassium iodide</td>
<td>1.9</td>
<td>231-659-4</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: dark red-brown liquid.  
**Warning!** Eye contact may result in permanent eye damage. May cause allergic skin reaction. Causes eye and skin irritation. Causes digestive and respiratory tract irritation. May cause fetal effects based upon animal studies.  
**Target Organs:** Thyroid.

**Potential Health Effects**

**Eye:** Causes eye irritation and possible injury.  
**Skin:** Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.  
**Ingestion:** Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Chronic ingestion of iodides during pregnancy has resulted in fetal death, severe goiter, and cretinoid appearance of the newborn.  
**Inhalation:** Causes respiratory tract irritation.  
**Chronic:** Chronic exposure can lead to iodism characterized by headache, excess salivation, nasal discharge, conjunctivitis, laryngitis, bronchitis, stomatitis, enlarged submaxillary glands, and skin rashes. May interfere with iodine uptake of the thyroid gland and enlarge it. Chronic ingestion of iodides during pregnancy has resulted in fetal death, severe goiter, and cretinoid appearance of the newborn. Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms could include skin rash, running nose and headache.

Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Wash clothing before reuse. Flush skin with plenty of soap and water.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Poyl(vinylpyrrolidone)-iodine complex</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Potassium iodide</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Deionized water: No OSHA Vacated PELs are listed for this chemical. Poyl(vinylpyrrolidone)-iodine complex: No OSHA Vacated PELs are listed for this chemical. Potassium iodide: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid  
**Appearance:** dark red-brown  
**Odor:** Iodine  
**pH:** Not available.  
**Vapor Pressure:** Not available.  
**Vapor Density:** > 1.00  
**Evaporation Rate:** Not available.  
**Viscosity:** Not available.  
**Boiling Point:** 100 deg C  
**Freezing/Melting Point:** > 0 deg C  
**Decomposition Temperature:** Not available.  
**Solubility:** Soluble in water.  
**Specific Gravity/Density:** ~1  
**Molecular Formula:** Solution  
**Molecular Weight:** Not available.

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials, excess heat.  
**Incompatibilities with Other Materials:** Incompatibilities with potassium iodide include: salts of alkaloids, chloral hydrate, calomel (mercurous chloride) potassium chlorate, metallic salts, tartaric and other acids, bromine trifluoride, and fluorine perchlorate, oxidizing agents. Incompatibilities with PVP include oxidizing agents.  
**Hazardous Decomposition Products:** Irritating and toxic fumes and gases, oxides of potassium, iodine.  
**Hazardous Polymerization:** Will not occur.

### Section 11 - Toxicological Information

**RTECS#:**  
**CAS# 7732-18-5:** ZC0110000  
**CAS# 25655-41-8:** TR1579600  
**CAS# 7681-11-0:** TT2975000  
**LD50/LC50:**  
**CAS# 7732-18-5:**  
- Oral, rat: LD50 = >90 mL/kg;  
**CAS# 25655-41-8:**  
- Draize test, rabbit, skin: 500 mg Mild;  
- Oral, mouse: LD50 = 8100 mg/kg;  
- Oral, rat: LD50 = >8 gm/kg;  
**CAS# 7681-11-0:**  
**Carcinogenicity:**
Epidemiology: Experimental reproductive effects have been reported.

Teratogenicity: Iodine salts can produce deformity, illness, and death of a fetus. PVP(iodine complex) has been shown to present a possible risk of harm to the unborn child.

Reproductive Effects: PVP(iodine complex) has been shown to produce reproductive effects when there is overexposure.

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

|                      | US DOT                                      | Canada TDG
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name:</td>
<td>Not regulated as a hazardous material</td>
<td>No information available.</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td></td>
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</tr>
<tr>
<td>UN Number:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing Group:</td>
<td></td>
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</tr>
</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
- CAS# 7732-18-5 is listed on the TSCA inventory.
- CAS# 25655-41-8 is listed on the TSCA inventory.
- CAS# 7681-11-0 is listed on the TSCA inventory.

Health & Safety Reporting List
- None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
- None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
- None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
- None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
- None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
- None of the chemicals in this product have a TPQ.

SARA Codes
- CAS # 7681-11-0: immediate, delayed.
Section 313  No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 25655-41-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7681-11-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
Not available.
Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)
CAS# 7732-18-5: No information available.
CAS# 25655-41-8: 2
CAS# 7681-11-0: 1

Canada - DSL/NDSL
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 25655-41-8 is listed on Canada's DSL List.
CAS# 7681-11-0 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List
CAS# 7681-11-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 3/25/1998
Revision #8 Date: 6/01/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher 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 Fisher has been advised of the possibility of such damages.