Potassium Iodide

### GHS Product Identifier:
101.07, Potassium Iodide Technical; 101.24, Potassium Iodide USP; 101.14, Potassium Iodide ACS; 101.08, Potassium Iodide 45% Soln.; 101.09, Potassium Iodide 50% Soln.; 101.84, Potassium Iodide Photo Grade.

### Formula Description:
**Technical:** Off white to light brown crystals or granular powder. **USP/ACS/Photo:** Colorless or white crystals or granular powder; slightly hygroscopic in moist air. Tends to cake during storage. On long exposure to air becomes yellow due to liberation of iodine. Light and moisture accelerates decomposition. **45% & 50% Solution:** Clear colorless to light yellow solution.

### Recommended Use:
Potassium Iodide is an inorganic halogenated salt that is used in polymer industry to improve structural properties. It is a corrosion inhibitor/acid intensifier in oilfield gas production, used in x-ray films owing to luminescence properties, LCD manufacturing as a polarizer, nylon stabilizer, trace mineral in animal feeds and/or dietary supplement and food additive.

### General Properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Technical/USP/ACS</th>
<th>45% Solution</th>
<th>50% Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>166.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>3.12 (25°C)</td>
<td>12.2 lbs/gal</td>
<td>1.46 g/ml</td>
</tr>
<tr>
<td>Solubility 20°C</td>
<td>144 g/100 ml H₂O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility 100°C</td>
<td>208 g/100 ml H₂O</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### General Properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Photo Grade</th>
<th>45% Solution</th>
<th>50% Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>166.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iodine (%)</td>
<td>76.45%</td>
<td>44.5% - 45.5%</td>
<td>49.5% - 50.4%</td>
</tr>
<tr>
<td>Potassium (%)</td>
<td>23.55%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility 20°C</td>
<td>144 g/100 ml H₂O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility 100°C</td>
<td>208 g/100 ml H₂O</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Chemical Product Specifications

<table>
<thead>
<tr>
<th>Property</th>
<th>Tech Assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assay</td>
<td>98.0% min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>45% Solution</th>
<th>50% Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assay</td>
<td>44.5% - 45.5%</td>
<td>49.5% - 50.4%</td>
</tr>
<tr>
<td>pH (as is)</td>
<td>7.0 - 11.0</td>
<td>7.0 - 11.0</td>
</tr>
</tbody>
</table>

Deepwater’s **PurIbyn** products offer you full traceability for all raw materials.

All products are manufactured under current Good Manufacturing Practices (cGMP) in our US FDA registered plant. FEI #2013633.
<table>
<thead>
<tr>
<th>Loss on Drying</th>
<th>1.0% max</th>
<th>0.2% max</th>
<th>0.2% max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Purify USP</td>
<td>Purify ACS</td>
<td>Purify Photo</td>
</tr>
<tr>
<td>Chloride &amp; Bromide (as Cl)</td>
<td>0.01% max</td>
<td>0.01% max</td>
<td></td>
</tr>
<tr>
<td>Iodate (IO3)</td>
<td>4 ppm max</td>
<td>3 ppm max</td>
<td>3 ppm max</td>
</tr>
<tr>
<td>Nitrogen Compounds (as N)</td>
<td>0.001% max</td>
<td>0.001% max</td>
<td></td>
</tr>
<tr>
<td>Phosphate (PO4)</td>
<td>0.001% max</td>
<td>0.001% max</td>
<td></td>
</tr>
<tr>
<td>Sulfate (SO4)</td>
<td>0.005% max</td>
<td>0.005% max</td>
<td></td>
</tr>
<tr>
<td>Nitrate, Nitrite &amp; Ammonia</td>
<td>USP Standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thiosulfate &amp; Barium</td>
<td>USP Standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium (Ba)</td>
<td>0.002% max</td>
<td>0.002% max</td>
<td></td>
</tr>
<tr>
<td>Heavy Metals (as Pb)</td>
<td>5 ppm max</td>
<td>5 ppm max</td>
<td></td>
</tr>
<tr>
<td>Iron (Fe)</td>
<td>3 ppm max</td>
<td>3 ppm max</td>
<td></td>
</tr>
<tr>
<td>Calcium (Ca)</td>
<td>0.002% max</td>
<td>0.002% max</td>
<td></td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>0.001% max</td>
<td>0.001% max</td>
<td></td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>0.005% max</td>
<td>0.005% max</td>
<td></td>
</tr>
<tr>
<td>Elemental Impurities Class 1</td>
<td>Cd, Pb, As, Hg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elemental Impurities Class 2A</td>
<td>Co, V, Ni</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Compendial grades conform to current USP and ACS editions*

**Standard Packaging**

<table>
<thead>
<tr>
<th>Net Weight</th>
<th>Packaging</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 lbs.</td>
<td>LDPE 3 gal Pail</td>
<td>Tech Only</td>
</tr>
<tr>
<td>25 lbs.</td>
<td>LDPE 2 gal Pail</td>
<td>USP/ACS</td>
</tr>
<tr>
<td>100 lbs.</td>
<td>UNIG 8 gal Fiberdrum</td>
<td>USP/ACS</td>
</tr>
<tr>
<td>65 lbs.</td>
<td>5 gal HDPE Drum</td>
<td>45% Soln</td>
</tr>
<tr>
<td>600 lbs.</td>
<td>55 gal HDPE Drum</td>
<td>45% Soln</td>
</tr>
<tr>
<td>650 lbs.</td>
<td>55 gal HDPE Drum</td>
<td>50% Soln</td>
</tr>
</tbody>
</table>

Material packaged with Saran inner liner and polyethylene out liner; suitable for export. Curtec drum does not include liner.

SDS with detailed information available upon request.

References:

6.  A Study on the Heat Resistance and Polarization Characteristics of Poly(vinyl alcohol)-I2 Complex Films Prepared with a Potassium iodide Applied Chemistry for Engineering Volume 10 Issue 4 / Pages.603-607 / 1999 / 1225-0112(pIISSN) / 2288-4505(eISSN) Oh, Se Young ; Shin, Dong Yoon