# Safety Data Sheet

## Iodine Potassium Iodide Solution

CAROLINA®
www.carolina.com

## Section 1 Product Description

**Product Name:** Iodine Potassium Iodide Solution
**Recommended Use:** Science education applications
**Synonyms:** dilute lugol's solution, starch indicator
**Distributor:** Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

## Section 2 Hazard Identification

**Classification of the chemical in accordance with paragraph (d) of §1910.1200;**

**WARNING**

Harmful if swallowed or if inhaled. Very toxic to aquatic life. Harmful in contact with skin.

**GHS Classification:**
Hazardous to the aquatic environment - Acute Category 1, Acute Toxicity - Inhalation Dust / Mist Category 4, Acute Toxicity - Oral Category 4

## Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % |
|---|---|---|
| Water | 7732-18-5 | 97 |
| Potassium Iodide | 7681-11-0 | 2 |
| Iodine | 7553-56-2 | 1 |

## Section 4 First Aid Measures

**Emergency and First Aid Procedures**
**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
**Eyes:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

## Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, $CO_2$ or appropriate foam.
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
**Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.
**Hazardous Combustion Products:** Iodine (gas)

## Section 6 Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:** Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Collect spillage.

## Section 7 Handling and Storage

**Handling:** Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Keep container tightly closed in a cool, well-ventilated place. Keep container dry.
**Storage:** Keep container tightly closed in a cool, well-ventilated place.
**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

| | ACGIH | | OSHA PEL | |
|---|---|---|---|---|
| **Chemical Name** | **(TWA)** | **(STEL)** | **(TWA)** | **(STEL)** |
| Potassium Iodide | 0.01 ppm TWA (inhalable fraction and vapor) | N/A | N/A | N/A |
| Iodine | 0.01 ppm TWA (inhalable fraction and vapor) | 0.1 ppm STEL (aerosol and vapor) | N/A | N/A |

**Control Parameters**
**Engineering Measures:** No data available. Good general room ventilation should be sufficient to control airborne contaminates to safe levels.
**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.
**Respiratory Protection:** No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 11. A respirator is not normally required.
**Respirator Type(s):** None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.
**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.
**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
**Gloves:** Natural rubber, Neoprene, PVC or equivalent., Nitrile

## Section 9 Physical Data

**Formula:** No data available
**Molecular Weight:** No data available
**Appearance:** Amber Liquid
**Odor:** Mild Characteristic
**Odor Threshold:** No data available
**pH:** No data available
**Melting Point:** Estimated 0 C
**Boiling Point:** Estimated > 100 C
**Flash Point:** No data available
**Flammable Limits in Air:** No data available
**Vapor Pressure:** 2.33X10-1 mm Hg at 25 C (Iodine)
**Evaporation Rate (BuAc=1):** <1
**Vapor Density (Air=1):** 6.75 g/L at 101.3 MPa, 185 C (Iodine)
**Specific Gravity:** Approx. 1
**Solubility in Water:** Soluble
**Log Pow (calculated):** No data available
**Autoignition Temperature:** No data available
**Decomposition Temperature:** No data available
**Viscosity:** No data available
**Percent Volatile by Volume:** No data available

## Section 10 Reactivity Data

**Reactivity:** Not generally reactive under normal conditions.
**Chemical Stability:** Stable under normal conditions.

**Conditions to Avoid:** Elevated temperatures
**Incompatible Materials:** Water-reactive materials, Strong oxidizing agents, Peroxides, Metals (ferrous), Acetaldehydes, Rust, Strong reducing agents, Magnesium, Sulfur, Rubber, Plastics, Halogens
**Hazardous Decomposition Products:** Iodine (gas)
**Hazardous Polymerization:** Will not occur

## Section 11 Toxicity Data

**Routes of Entry** Ingestion, skin and eye contact.
**Symptoms (Acute):** Hyperthyroidism, Iodism, Allergies, Dermititis
**Delayed Effects:** No data available

**Acute Toxicity:**

| Chemical Name | CAS Number | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|---|
| Water | 7732-18-5 | Oral LD50 Rat 90000 mg/kg | | |
| Potassium Iodide | 7681-11-0 | | | |
| Iodine | 7553-56-2 | Oral LD50 Mouse 22000 mg/kg Oral LD50 Rat 14000 mg/kg | | |

**Carcinogenicity:**

| Chemical Name | CAS Number | IARC | NTP | OSHA |
|---|---|---|---|---|
| Potassium Iodide | 7681-11-0 | Not listed | Not listed | Not listed |
| Iodine | 7553-56-2 | Not listed | Not listed | Not listed |

**Chronic Effects:**
**Mutagenicity:** No evidence of a mutagenic effect.
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).
**Sensitization:** No evidence of a sensitization effect.
**Reproductive:** No evidence of negative reproductive effects.
**Target Organ Effects:**
**Acute:** Thyroid
**Chronic:** Thyroid

## Section 12 Ecological Data

**Overview:** This material is not expected to be harmful to the ecology.
**Mobility:** No data
**Persistence:** Dissolved into water, Adsorbs to sediment, evaporates into atmosphere.
**Bioaccumulation:** No data
**Degradability:** No data
**Other Adverse Effects:** No data

| Chemical Name | CAS Number | Eco Toxicity |
|---|---|---|
| Water | 7732-18-5 | No data available |
| Potassium Iodide | 7681-11-0 | |
| Iodine | 7553-56-2 | No data available |

## Section 13 Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
**Waste Disposal Code(s):** Not Determined

## Section 14 Transport Information

**Ground - DOT Proper Shipping Name:**

**Air - IATA Proper Shipping Name:**

Not regulated for transport by US DOT.

Not regulated for air transport by IATA.

## Section 15 Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

| Chemical Name | CAS Number | § 313 Name | § 304 RQ | CERCLA RQ | § 302 TPQ | CAA 112(2) TQ |
|---|---|---|---|---|---|---|
| Potassium Iodide | 7681-11-0 | No | No | No | No | No |
| Iodine | 7553-56-2 | No | No | No | No | No |

## Section 16 Additional Information

**Revised: 10/15/2015** **Replaces: 10/12/2015** **Printed: 10-29-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

**Glossary**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS | Chemical Abstract Service Number |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| DOT | U.S. Department of Transportation |
| IARC | International Agency for Research on Cancer |
| N/A | Not Available |
| NTP | National Toxicology Program |
| OSHA | Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limit |
| ppm | Parts per million |
| RCRA | Resource Conservation and Recovery Act |
| SARA | Superfund Amendments and Reauthorization Act |
| TLV | Threshold Limit Value |
| TSCA | Toxic Substances Control Act |
| IDLH | Immediately dangerous to life and health |