SDS

# Safety Data Sheet

## 1. IDENTIFICATION

**Product Identifier:** **Iodine Solution, 1.24% w/w (0.1 N)**

**Product Code(s):** I1010, RS-I2-0.1

**Synonyms:** Mixture.

**Recommended Use:** For manufacturing, industrial, and laboratory use only. Use as a laboratory reagent.

**Uses Advised Against:** Not for food, drug, or household use.

**Supplier:** Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

**Emergency Phone Number:** For health emergency, call poison control: (800) 222-1222.

## 2. HAZARDS IDENTIFICATION

**Hazard Classifications:** Specific Target Organ Toxicity (Repeated Exposure): Category 1

**Signal Word:** DANGER

**Hazard Statements:** Causes damage to organs (thyroid) through prolonged or repeated exposure.

**Pictograms:**



**Precautionary Statements:**

**Prevention:** Do not breathe fumes, mists, vapors, or spray.
Wash thoroughly after handling.
Do not eat, drink, or smoke while using this product.

**Response:** Get medical attention if you feel unwell.

**Storage:** Not applicable.

**Disposal:** Dispose of contents and container in accordance with local, regional, national, and international regulations.

**Hazards Not Otherwise Classified:** Exposure to this product may cause adverse reproductive effects.

**Toxicity Statement:** Not applicable.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

| Component | Common Name / Synonyms | CAS# | Chemical Formula | % by Weight |
|---|---|---|---|---|
| Water | Water | 7732-18-5 | $H_2O$ | 94.9 |
| Potassium Iodide | Iodic Acid, Potassium Salt | 7681-11-0 | KI | 3.86 |
| Iodine | Iodine | 7553-56-2 | $I_2$ | 1.24 |

**Trade Secret Statement:** Not applicable.

## 4. FIRST AID MEASURES

**First Aid Procedures:**

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician immediately if symptoms occur.

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Call a physician or poison control center if symptoms occur.

**Skin Contact:** Remove contaminated clothing and shoes. Wash skin with soap and plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention if symptoms occur.

**Eye Contact:** Check for and remove contact lenses if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician if symptoms occur.

**General Advice:** Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that medical personnel and those providing first aid are aware of the material(s) involved and take precautions to protect themselves.

**Symptoms and Effects:** Irritation, coughing, sneezing, shortness of breath, fever, headache, nausea, vomiting, shock. May be harmful if swallowed, inhaled, or absorbed through the skin or eyes. Causes irritation to skin, eyes, and stomach. May cause irritation to respiratory tract. Prolonged or repeated exposure may cause iodism, thyroid damage, and reproductive effects.

**Immediate Medical Care/ Special Treatment:** If you feel unwell or are concerned, call a physician or poison control center immediately. Treat symptomatically.

## 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Water spray, dry powder, alcohol resistant foam, carbon dioxide.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream, as it may scatter and spread fire.

**Hazardous Combustion Products:** Potassium oxides, iodides.

**Specific Hazards:** Excessive thermal conditions may cause decomposition and yield hazardous combustion products listed above.

**Special Protective Equipment/ Precautions for Firefighters:** As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear. Use water spray to cool unopened containers. In the event of fire and/or explosion, do not breathe fumes.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions and Protective Equipment:** Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of leak or spill. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, and clothing.

**Emergency Procedures:** In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

**Methods for Containment:** Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover liquid when possible.

**Methods for Cleanup:** Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Residues from spills can be absorbed with acetone or alcohol. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

## 7. HANDLING AND STORAGE

**Handling:** Wear personal protective equipment (see Section 8). Provide sufficient air exchange and/or exhaust in work areas. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist. Do not ingest. When using, do not eat, drink, or smoke. Limit exposure to light. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

**Storage:** Store in a cool, dry, ventilated area. Protect from light. Store in a segregated and approved area away from incompatible materials (see Section 10). Store in original container. Do not store in polymer or metal containers. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure Limits:**

| | | | |
|---|---|---|---|
| Water: | No information found. | | |
| Potassium Iodide: | ACGIH: | TLV: | 0.01 ppm |
| Iodine: | ACGIH: | TWA: | 0.01 ppm |
| | | STEL: | 0.1 ppm |
| | OSHA: | PEL: | 0.1 ppm |
| | NIOSH: | REL: | 0.1 ppm |
| | | IDLH: | 2 ppm |

**Engineering Controls:** Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal Protective Measures:**

**Eye/Face Protection:** Wear safety glasses with side shields or goggles. Maintain approved eye wash station and accessible rinse facilities in work area.

**Skin Protection:** Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

**Respiratory Protection:** An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or in any other circumstances where air-purifying respirators may not provide adequate protection.

**Specific Requirements for Personal Protective Equipment:** Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance:** | Yellowish brown, opaque liquid. |
| **Odor:** | Faint, characteristic. |
| **Odor Threshold:** | No information found. |
| **Formula Weight:** | Mixture. |
| **pH:** | No information found. |
| **Melting/Freezing Point:** | No information found. |
| **Boiling Point/Range:** | No information found. |
| **Decomposition Temperature:** | No information found. |
| **Flash Point:** | Not applicable. |
| **Auto-ignition Temperature:** | Not applicable. |
| **Flammability:** | Not flammable. |
| **Flammability/Explosive Limits:** | Not applicable. |
| **Solubility:** | Miscible with water, acetone, alcohol. |
| **Vapor Pressure:** | No information found. |
| **Vapor Density:** | No information found. |
| **Specific Gravity:** | 1.005 – 1.035 (Water = 1) |
| **Evaporation Rate:** | No information found. |
| **Viscosity:** | No information found. |
| **Partition Coefficient (n-octanol/water):** | No information found. |

## 10. STABILITY AND REACTIVITY

**Reactivity Data:** No information found.

**Chemical Stability:** Degrades gradually and nonhazardously at standard conditions. Sensitive to light.

**Conditions to Avoid:** Heat, light, incompatible materials.

**Incompatible Materials:** Reducing agents, acids, metals, organic materials, combustible materials, halides.

**Hazardous Decomposition Products:** Potassium oxides, iodides.

**Possibility of Hazardous Reactions:** May react vigorously or violently if exposed to extreme thermal conditions or in contact with the incompatible materials listed above.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Routes of Exposure:** Inhalation, ingestion, skin contact, eye contact.

**Acute Effects:** May be harmful if swallowed, inhaled, or absorbed through the skin or eyes. Causes irritation to skin, eyes, and stomach. May cause irritation to respiratory tract.

**Chronic Effects:** Prolonged or repeated exposure may cause iodism, thyroid damage, and reproductive effects.

**Toxicological Data:**

| | | |
|---|---|---|
| Water: | Not applicable. | |
| Potassium Iodide: | LD50 Oral, Rat: | 2779 mg/kg |
| Iodine: | LD50 Oral, Rat: | 315 mg/kg |
| | LD50 Dermal, Rabbit: | 1425 mg/kg |
| | LC50 Inhalation, Rat: | 4.588 mg/L 4 h |
| | Causes skin and eye irritation based on animal data. | |

**Symptoms of Exposure:** Irritation, coughing, sneezing, shortness of breath, fever, headache, nausea, vomiting, shock.

**Carcinogenic Effects:** No component of this product is considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Data:**

| | | |
|---|---|---|
| Water: | Not applicable. | |
| Potassium Iodide: | LC50, Rainbow Trout (Oncorhynchus mykiss): | 3200 mg/L 120 h |
| Iodine: | LC50, Rainbow Trout (Oncorhynchus mykiss): | 1.67 mg/L 96 h |
| | EC50, Water Flea (Daphnia magna): | 0.55 mg/L 48 h |

**Persistence and Degradability:** This product may not be readily biodegradable. Not expected to have high bioaccumulation potential.

**Environmental Effects:** Toxic to aquatic organisms. Avoid release to the environment.

## 13. DISPOSAL INFORMATION

**Disposal Instructions:** All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8).

**Contaminated Packaging:** Because emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

**Waste Codes:** No information found.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated.

**Environmental Hazard Regulations:** No information found.

**Other Transport Precautions:** No information found.

## 15. REGULATORY INFORMATION

**U.S. Federal Regulations**:

**OSHA:** This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Inventory:** All components of this product are on the U.S. TSCA Inventory.

**U.S. EPCRA (SARA Title III):**

**Section 302:** No information found.

**Sections 311/312:**

| Hazard Category | List (Yes/No) |
|---|---|
| Section 311 – Hazardous Chemical | Yes |
| Immediate Hazard | Yes |
| Delayed Hazard | Yes |
| Fire Hazard | No |
| Pressure Hazard | No |
| Reactivity Hazard | No |

**Section 313:** No information found.

**CERCLA Reportable Quantities:** No information found.

**International Inventories:**

| Country or Region | Inventory Name | On Inventory (Yes/No)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | N/A |
| Canada | Domestic Substances List (DSL) | N/A |
| Canada | Non-Domestic Substances List (NDSL) | N/A |
| China | Inventory of Existing Chemical Substances in China (IECSC) | N/A |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | N/A |
| Europe | European List of Notified Chemical Substances (ELINCS) | N/A |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | N/A |
| Korea | Existing Chemicals List (ECL) | N/A |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | N/A |

*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing country(s).

## 16. OTHER INFORMATION

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**Reason for Revision:** Not applicable.