

Safety Data Sheet

Lugol's Solution

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Lugol's Solution
Recommended Use: Science education applications
Synonyms: Donaldson's Amoeba Stain 2, Strong Iodine Solution, Lugol's Solution, Iodine Solution
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;

DANGER



Toxic if swallowed. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life.

GHS Classification:

Serious Eye Damage/Eye Irritation Category 2, Hazardous to the aquatic environment - Acute Category 2, Acute Toxicity - Oral Category 3

Acute Toxicity Inhalation Vapor Contains 15 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains 15 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u> | <u>CAS #</u> | <u>%</u> |
|----------------------|--------------|----------|
| Water | 7732-18-5 | 85 |
| Potassium Iodide | 7681-11-0 | 10 |
| Iodine | 7553-56-2 | 5 |

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 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.

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Hazardous Combustion Products: Iodine and Iodine Compounds

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.

Section 7 Handling and Storage

Handling: Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid direct sunlight and heat.

Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Green - general chemical storage

Section 8 Protection Information

| Chemical Name | ACGIH | | OSHA PEL | |
|------------------|---|-------------------------------------|----------|--------|
| | (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: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Respirator Type(s): NIOSH approved air purifying respirator with dust/mist filter. 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: Butyl rubber, Neoprene, Polyvinyl chloride, Nitrile

Section 9 Physical Data

Formula: See Section 3

Molecular Weight: No data available

Appearance: Purple-Yellow Liquid

Odor: Moderate Characteristic

Odor Threshold: No data available

pH: No data available

Melting Point: No data available

Boiling Point: No data available

Flash Point: No data available

Flammable Limits in Air: No data available

Vapor Pressure: No data available

Evaporation Rate (BuAc=1): No data available

Vapor Density (Air=1): No data available

Specific Gravity: Approx. 1.0

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

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Section 10

Reactivity Data

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| 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 and Iodine Compounds |
| Hazardous Polymerization: | Will not occur |

Section 11

Toxicity Data

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|--------------------------|--|
| Routes of Entry | Inhalation, ingestion, eye or skin contact. |
| Symptoms (Acute): | Iodism, Hyperthyroidism, Hypothyroidism, Allergies, Impaired Kidney Function, Cardiovascular system, Central Nervous System Disorders, Pulmonary Edema, Headache |
| 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: | Evidence of a sensitization effect. |
| Reproductive: | No evidence of negative reproductive effects. |
| Target Organ Effects: | |
| Acute: | Thyroid |
| Chronic: | Thyroid |

Section 12

Ecological Data

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| Overview: | Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife. |
| Mobility: | No data |
| Persistence: | Dissolved into water, Adsorbs to sediment, evaporates into atmosphere. |
| Bioaccumulation: | No data |
| Degradability: | No data |
| Other Adverse Effects: | No data Combines with organics, forming new compounds. |

| 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

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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:
Not regulated for transport by US DOT.

Air - IATA Proper Shipping Name:
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 |

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

Revised: 08/21/2018

Replaces: 08/08/2018

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