

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.16.2014**Lugol's Solution****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Lugol's Solution**Manufacturer/Supplier Article number:** S25394**Recommended uses of the product and restrictions on use:** Laboratory**Manufacturer Details:**

AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
800 955-1177

Emergency telephone number:

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazards identification**Classification of the substance or mixture:****Irritant**

Skin irritation, category 2
Eye irritation, category 2A

Skin Irritation, Category 2.
Eye Irritation, Category 2.

Signal word: Warning**Hazard statements:**

Causes serious eye irritation.
Causes skin irritation.

Precautionary statements:

If medical advice is needed have product container or label at hand.
Keep out of reach of children.
Read label before use.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN: Wash with soap and water.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
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.

Other Non-GHS Classification: None

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Lugol's Solution**SECTION 3: Composition/information on ingredients****Ingredients:**

Ingredients:		
CAS 7681-11-0	Potassium Iodide	3.5 %
CAS 7732-18-5	Deionized Water	94.5 %
CAS 7553-56-2	Iodine	2 %
Percentages are by weight		

SECTION 4: First aid measures**Description of first aid measures****After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

After skin contact:

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation persists or if concerned.

After eye contact:

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5: Firefighting measures**Extinguishing media****Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing agents: None**Special hazards arising from the substance or mixture:**

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.

Advice for firefighters:**Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

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Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Small quantities may be flushed to drains with plenty of water.

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

Reference to other sections: None**SECTION 7: Handling and storage****Precautions for safe handling:**

Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Use only in well ventilated areas. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities:

Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed. Protect from freezing and physical damage.

SECTION 8: Exposure controls/personal protection**Control parameters:**7681-11-0, Potassium Iodide, ACS, ACGIH NIOSH 0.01 mg/m³.**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood.

Respiratory protection:

Use suitable respiratory protective device when high concentrations are present. For spills, respiratory protection may be advisable. Normal ventilation is adequate.

Protection of skin:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection:

Safety glasses with side shields or goggles.

General hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9: Physical and chemical properties

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Appearance (physical state, color):	Dark brown liquid	Explosion limit lower:	Not determined
		Explosion limit upper:	Not determined
Odor:	Weak iodine odor	Vapor pressure at 20°C:	Not determined
Odor threshold:	Not determined	Vapor density:	0.7
pH-value:	Not determined	Relative density:	Approx. 1
Melting/Freezing point:	Approx. 0°C	Solubilities:	Soluble in water.
Boiling point/Boiling range:	Approx. 100°C	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	> 1	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined		

SECTION 10: Stability and reactivity**Reactivity:**

Nonreactive under normal conditions.

Chemical stability:

No decomposition if used and stored according to specifications.

Possible hazardous reactions:

None under normal processing.

Conditions to avoid:

exposure to light. Incompatible Materials.

Incompatible materials:

Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products:

Hydrogen iodide. Iodine gas. May include oxides of iodine.

SECTION 11: Toxicological information**Acute Toxicity:** No additional information.**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:**

Rabbit: causes irritation. 7681-11-0.

Serious eye damage/irritation:

Rabbit: causes irritation. 7681-11-0.

Respiratory or skin sensitization: No additional information.**Carcinogenicity:** No additional information.**Germ cell mutagenicity:** No additional information.**Reproductive Toxicity:** No additional information.**STOT-single and repeated exposure:** No additional information.**Additional toxicological information:**

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No additional information.

SECTION 12: Ecological information**Ecotoxicity:**Crustacea LC50 Zebra mussel (*Dreissena polymorpha*) 220 - 313 mg/l, 24 hrs., 7681-11-0.Fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - 2,190 mg/l - 96 h, 7681-11-0.**Persistence and degradability:** No additional information.**Bioaccumulative potential:**

Not expected to bio accumulate.

Mobility in soil: No additional information.**Other adverse effects:** No additional information.**SECTION 13: Disposal considerations****Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. Small amounts may be flushed with water to sewer. Larger volumes must be sent to approved plant for destruction.

SECTION 14: Transport information**US DOT****UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

Limited Quantity Exception:

None

Bulk:**RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**SECTION 15: Regulatory information****United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

Acute

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

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None of the ingredients are listed.

TSCA (Toxic Substances Control Act) :

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

None of the ingredients are listed.

Proposition 65 (California):**Chemicals known to cause cancer:**

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada**Canadian Domestic Substances List (DSL) :**

All ingredients are listed.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 1-0-0**HMIS:** 1-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:**

IMDG	International Maritime Code for Dangerous Goods.
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.
IATA	International Air Transport Association.

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- GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).