BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	**Lugol's Iodine Solution**	**Code:**	**4100**
Supplier:	**BBC Biochemical**	**MSDS#:**	**4100**
Synonym:	Lugol's Iodine(2%)	**Validation Date:**	**3-27-09**
Trade Name:	**None**	**Print Date:**	**3-27-09**
Material Uses:	**Fixation of tissue**	**Responsible Name:**	**Dr. B**
Manufacturer:	**BBC Biochemical** **PO Box 1320** **409 Eleanor Lane** **Mount Vernon, WA 98273** **1-800-635-4477**	**In Case of Emergency: 1-800-424-9300 Chemtrec** **USA** **1-202-483-7616 Chemtrec Intrl** **1-800-635-4477**	

Section 2. Composition and Information on Ingredients

Name	CAS#	Percent Composition	OSHA/PEL
1) Water	7732-18-5	Withheld as trade secret	N/A
2) Iodine	7553-56-2		N/A
3) Potassium iodide	7681-11-0		N/A
4)			

Section 3. Hazards Identification

Physical State and Appearance	Opaque purple solution with the characteristic odor of iodine.
Emergency Overview	Not available.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	Irritation, may cause permanent damage.
Skin	Irritation. May cause contact dermatitis. Repeated, excessive exposure to iodine compounds may cause rash, swelling of the vocal cords, severe generalized allergic reaction, joint pain and swelling. Iodine is absorbed through intact skin.
Inhalation	Irritation to nose, throat and respiratory system.
Ingestion	May cause allergic reaction: Irritation to throat and respiratory system.
Potential Chronic Health Effects	Large doses of iodine cause sever vomiting, diarrhea, abdominal pain, thirst, shock, fever, delirium, stupor and death. Prolonged exposure to iodine compounds may produce iodism and deficiency of thyroid hormone.
Medical Conditions Aggravated by Overexposure	Respiratory conditions. Repeated and prolonged exposure increases the risk.
Overexposure/ Signs/Symptoms	

Section 4. First Aid Measures

Eye Contact	Immediately flush thoroughly with water for at least 15 minutes.
Skin Contact	Wash thoroughly with large amounts of water. Remove contaminated clothing at once (launder before reuse); discard contaminated shoes.
Inhalation	Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion	If four drops or more are ingested at one time, immediate steps should be taken. Do not induce vomiting. Administer 2 glasses of water. Get immediate medical attention even if symptoms improve.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Not available.
Auto-ignition Temperature	Not available.
Flash Points	None.

Flammable Limits	Not available.
Products of Combustion	Not available.
Fire Hazards in Presence Of Various Substances	Pyrolysis will release corrosive iodine vapor.
Explosion Hazards in Presence of Various Substances	Not available.
Fire Fighting Media and Instructions	CO_2, foam, water. Wear self-contained breathing apparatus and protective clothing.
Protective Clothing (Fire)	
Special Remarks on Fire Hazards	Thermal decomposition produces toxic fumes.
Special Remarks on Explosion Hazards	

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under section VIII. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate it's source, if this can be done without risk. Take up and containerize for proper disposal as described under Waste Disposal Method. Comply with Federal, State, and local regulations on reporting releases.
Large Spill and Leak	Same as above.

Section 7, Handling and Storage

Handling	So not breathe vapor or mist. Do not get in eyes, on skin, or on clothing.
Storage	Keep container tightly closed. Store away from heat, sparks, open flame.

Section 8. Exposure Controls / Personal Protection

Engineering Controls	
Personal Protection	
Eyes	Safety glasses with side shields must be worn at all times.
Body	Impervious protective clothing must be worn to prevent skin contact.
Respiratory	If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety supplier). Material must be handled or transferred in an approved fume hood or with adequate ventilation. Engineering and/or administrative controls should be implemented to reduce exposure.
Hands	Neoprene, nitrile or equivalent protective gloves should be worn.
Feet	Impervious protective footwear must be worn to prevent skin contact.
Personal Protection in Case of a Large Spill	See above.

Product Name	**Exposure Limits**
1)	
2)	
3)	

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Opaque purple solution	**Odor:**	Characteristic odor of iodine
Molecular Weight	Not applicable.	**Taste:**	Not available.
Molecular Formula	Not applicable.	**Color:**	Opaque purple.
pH (1%/Water)	Not applicable.		
Boiling/Condensation Point	Not applicable.		
Melting/Freezing Point	Not applicable.		
Critical Temperature	Not applicable.		
Specific Gravity	Not applicable.		
Vapor Pressure	Not applicable.		
Vapor Density	Not applicable.		
Volatility	Not applicable.		
Odor Threshold	Not applicable.		
Evaporation Rate	Not applicable.		
VOC	Not available.		
Viscosity	Not available.		

Ionicity (in water)	Not available.
Dispersion Properties	Not available.
Solubility	Miscible in water.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	Heat.
Incompatibility with Various Substances	Nothing unusual.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	
Other Toxic Effects on Humans	
Special Remarks on Toxicity to Animals	
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BODS and COD	Not available.
Biodegradable/OEDC	Not available.
Mobility	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on The Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Usually not restricted, but local ordinances vary. Iodine may often be neutralized with thiosulfate and flushed down drain with excess water. Insure compliance with all government regulations.
Waste Stream	Not available.

Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	Not hazardous.
Marine Pollutant	Not available.
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	Not applicable.
TDG Classification	Not controlled under TDG (Canada).
ADR/RID Classification	Not controlled under ADR (Europe).
IMO/IMDG Classification	Not controlled under IMDG.
ICAO/IATA Classification	Not controlled under IATA.

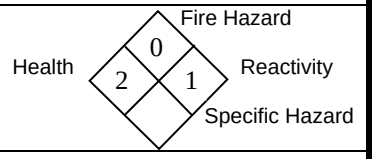
Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)

Health	2
Fire Hazard	0
Reactivity	1
Personal Protection	

National Fire Protection Association (U.S.A.)



References

Other Special Considerations

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.