

BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	Bouin's Solution	Code:	2010
Supplier:	BBC Biochemical	MSDS#:	2000
Synonym:	Not available	Validation Date:	4-23-09
Trade Name:	Not available	Print Date:	4-23-09
Material Uses:	Not available	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#	% by Weight	Exposure Limits
1) Formaldehyde	50-00-0	9.3	OSHA PEL 0.75ppm TWA
2) Picric Acid	88-89-1	1.2	Not available
3) Glacial Acetic Acid	64-19-7	5	OSHA PEL 10ppm TWA
4) Water	7732-18-5	84.5	

Section 3. Hazards Identification

Physical State and Appearance	Liquid, Clear, Yellow
Emergency Overview	Harmful. Explosive when dry. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of carcinogenic effect. May cause sensitization by skin contact. Contains formaldehyde. Lachrymator. Readily absorbed through skin.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	Irritation, may cause permanent damage.
Skin	Irritation.
Inhalation	Irritation to nose, throat and respiratory system.
Ingestion	May cause allergic reaction: Irritation to throat and respiratory system.
Potential Chronic Health Effects	Formaldehyde has the potential to cause cancer in humans. Repeated and prolonged exposure increases the risk. In humans, formaldehyde exposure has been associated with cancer of the lungs, nasopharynx and oropharynx, and nasal passages.
Medical Conditions Aggravated by Overexposure	Respiratory conditions.
Overexposure/Signs/Symptoms	Not available.

Section 4. First Aid Measures

Eye Contact	Immediately flush thoroughly with water for at least 15 minutes.
Skin Contact	Wash thoroughly with water. Remove contaminated clothing at once and discard contaminated shoes.
Inhalation	Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion	If conscious, dilute, inactivate, or absorb the ingested formaldehyde by giving milk, activated charcoal, or water. Get immediate medical attention.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Not flammable.
Auto-ignition Temperature	Not available.
Flash Points	None.
Flammable Limits	Not available.
Products of Combustion	Metal, HCl, CL, CO _x . Contact with HCl may cause formation of the potent carcinogen, bischloromethyl ether

Fire Hazards in Presence Of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Dry material is explosive. If material is involved in a fire, evacuate the area and allow it to burn. If not involved in a fire, keep material wet.
Fire Fighting Media and Instructions	CO ₂ , foam, water.
Protective Clothing (Fire)	Wear self-contained breathing apparatus and protective clothing.
Special Remarks on Fire Hazards	Keep away from ignition sources.
Special Remarks on Explosion Hazards	None.

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate all unnecessary personnel. Contain spill. Eliminate any ignition sources until the area is determined to be free from exposure or fire hazards. If solids are present, add water to the solids without stirring. Recover spilled materials into a non-metallic water impervious container. Keep spilled material wet with water. Do not allow to dry! Use a spill response pad or pillow damp with water to absorb remaining spilled material and absorbent pads or pillows in accordance with governmental requirements.
Large Spill and Leak	Evacuate all unnecessary personnel. Contain spill. Eliminate any ignition sources until the area is determined to be free from exposure or fire hazards. If solids are present, add water to the solids without stirring. Recover spilled materials into a non-metallic water impervious container. Keep spilled material wet with water. Do not allow to dry! Use a spill response pad or pillow damp with water to absorb remaining spilled material and absorbent pads or pillows in accordance with governmental requirements. Personnel should wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Wear disposable coveralls and discard them after use.

Section 7, Handling and Storage

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

Section 8. Exposure Controls / Personal Protection

Engineering Controls	Use only in a chemical fume hood. Have a safety shower and eye bath close by.
Personal Protection	
Eyes	Safety glasses with 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).
Hands	Neoprene, nitrile or equivalent.
Feet	Boots or impervious shoes.
Personal Protection in Case of a Large Spill	Wash contaminated clothing before reuse. Wash thoroughly after handling.
Product Name	Exposure Limits
1) 37% Formaldehyde	OSHA 0.75ppm TWA; 0.5ppm Action Level
2) 100% Glacial Acetic Acid	OSHA 10 ppm TWA
Consult Local authorities before acceptable exposure limits.	

Section 9. Physical and Chemical Properties

Physical State and Appearance	Clear yellow liquid.	Odor:	Not available.
Molecular Weight	Not applicable.	Taste:	Not available.
Molecular Formula	Not applicable.	Color:	Yellow liquid.
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	Soluble in water.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Acids, oxidizers, strong alkalies.
Hazardous Decomposition Products	Metal, HCl, Cl, CO ₂
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity to Animals	37% Formaldehyde: orl-mouse LD50: 42 mg/kg 100% Picric Acid: orl-gnp LDLo 50: 100 mg/kg
Chronic Effects on Humans	Not available.
Other Toxic Effects on Humans	Not available.
Special Remarks on Toxicity to Animals	Toxicological Findings: Tests on laboratory animals indicate formaldehyde may cause tumors and may produce adverse mutagenic and reproductive effects.
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 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	Not available.
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	ADR (Europe) Information not available.
IMO/IMDG Classification	IMDG Information not available.
ICAO/IATA Classification	See IATA Regulations Formaldehyde Solution, UN2209, 8, III

Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)	Health	3	National Fire Protection Association (U.S.A.)	
	Fire Hazard	0		
	Reactivity	1		
	Personal Protection			
References				
Other Special Considerations				
Notice to Reader				
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