

# MATERIAL SAFETY DATA SHEET

## 10% Neutral Buffered Formalin

Emergency Phone: CHEMTREC: (800) 424-9300 ♦ Product Info: Globe Scientific Inc. (800) 394-4562

<p><b>Product Name:</b> 10% Formalin Solution Phosphate Buffered</p> <p><b>DATE OF ISSUE:</b> August 23, 2002</p> <p>Synonyms: Formalin, Formalin Fixative</p> <p>CAS Number: N/A to mixtures Chemical Formula: N/A</p> <p>Molecular Weight: N/A</p> <p>Hazardous Ingredients: CAS# 67-56-1 Methanol</p> <p>CAS# 50-00-0 Formaldehyde</p> <p><b>--Precautionary Information--</b> <b>DANGER!</b> May be fatal if swallowed. Harmful if inhaled. Possible cancer hazard based on tests with laboratory animals. Exposure may create a cancer risk. May cause blindness. Combustible. Keep away from heat, sparks, and open flame. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.</p> <p><b>--Emergency First Aid--</b> In all cases call a physician. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air, If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact immediately flush skin or eyes with plenty of water for at least 15 minutes.</p> <p><b>DOT Hazard Class:</b> N/A</p>	<p><b>Special Information:</b> In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool. Use water spray to blanket fire; Cool fire exposed containers: and to flush non-ignited spills or vapors away from fire.</p> <p><b>SECTION 3 Reactivity Data</b></p> <p>Stability: Stable under ordinary conditions of use and storage.</p> <p>Hazardous Decomposition Products: If involved in a fire; Irritating gaseous formaldehyde and toxic carbon monoxide may be released.</p> <p>Hazardous Polymerization: Will not occur.</p> <p>Incompatibilities: Oxidizing agents and alkalis; Perchloric Acid, Nitro methane.</p> <p><b>SECTION 4 Leak/Spill disposal Information</b></p> <p><b>Spills:</b> Ventilate area of leak or spill. Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Only specially trained or qualified personnel should handle the emergency. Do not flush to sewer or surface waters. Can be absorbed on inert material and disposed as hazardous waste in a RCRA approved facility or dissolved in an appropriate combustible solvent and atomized in a RCRA approved chemical incinerator equipped with an afterburner.</p> <p>Reportable quantity (RQ) (CWA/CERCLA): 1000 lbs. Formaldehyde: 10,000 lbs. Solution. Ensure compliance with local, state, and federal regulations.</p>	<p><b>First Aid:</b> <b>Inhalation:</b> Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.</p> <p><b>Ingestion:</b> If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Call a physician immediately. Never give anything by mouth to an unconscious person.</p> <p><b>Skin Exposure:</b> In case of contact, immediately flush skin with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.</p> <p><b>Toxicity Data: (RTECS 1982)</b></p> <p>Oral rat LD500: 590 MG/KG Inhalation Rat LC50: 590 MG/M3 Skin Rabbit LO50: 270 MG/KG Mutation references cited. Reproductive effects cited. Tumorigenic effects cited.</p> <p>Aquatic toxicity rating: TLM 96: 100-10PPM</p> <p>Carcinogenic determination (formaldehyde gas): Sufficient evidence in animals – inadequate evidence in humans. (IARC Supplement 4; 1982) Listed as a carcinogen by the National Toxicology Program (NTP) 3<sup>rd</sup> Annual Report.</p> <p>Methanol: Mutation references cited and reproductive effects cited.</p>
<p><b>SECTION 1 Physical Data</b></p> <p><b>Appearance:</b> Clear, colorless solution</p> <p><b>Odor:</b> Slightly pungent odor</p> <p><b>Solubility:</b> Soluble in water</p> <p><b>Boiling Point:</b> CA. 100 deg. C</p> <p><b>Melting Point:</b> CA. 0 deg. C</p> <p><b>Specific Gravity:</b> CA. 1.0</p> <p><b>Density:</b> N/A</p> <p><b>Vapor Density:</b> Essentially like water</p> <p><b>Vapor Pressure:</b> Essentially like water</p> <p><b>Evaporation Rate:</b> Essentially like water</p> <p><b>SECTION 2 Fire and explosion information</b></p> <p><b>Flashpoint:</b> 154° F (69° C)</p> <p><b>Explosion:</b> Above flashpoint, explosive vapor-air mixtures may be formed.</p> <p><b>Fire extinguishing media:</b> Water, Dry Chemical, Foam or Carbon Dioxide.</p>	<p><b>DISPOSAL:</b> See Spills</p> <p><b>SECTION 5 Health Hazard Information</b></p> <p>Exposure/Health Effects: Not Applicable</p> <p><b>Inhalation:</b> Effects should be less severe than exposure to higher concentrations of formaldehyde. May cause sore throat, coughing, and shortness of breath. An irritant to mucous membranes.</p> <p><b>Ingestion:</b> Effects should be less severe than exposure to higher concentrations of formaldehyde. May cause severe abdominal pain, violent vomiting and diarrhea. Larger doses may result in blindness or death.</p> <p><b>Skin Contact:</b> Toxic. May cause irritation to the eyes with redness, pain and blurred vision.</p> <p><b>Chronic Exposure:</b> Frequent or prolonged exposure may cause hypersensitivity leading to contact dermatitis. Vision impairment and enlargement of liver may occur.</p> <p><b>Aggravation of Pre-Existing Conditions:</b> Persons with skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.</p>	<p><b>SECTION 6 Occupational Control Measures</b></p> <p>Airborne Exposure Limit: OSHA Permissible exposure limit (PEL): .75 PPM (TWA) 5PPM ceiling; 10 PPM peak. ACGIH Threshold limit value (TLV): 2 PPM Ceiling.</p> <p><b>Ventilation System:</b> A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source; preventing dispersion of it into the general work area. Please refer to the ACHIH document: "Industrial Ventilation; A Manual of Recommended Practices", most recent edition for details.</p> <p><b>Personal Respirators:</b> (NIOSH APPROVED) If the TLV is exceeded; wear a supplied air; full face piece respirator; air-lined hood; or self-contained breathing apparatus.</p> <p><b>Skin Protection:</b> Wear impervious protective clothing; including boots; gloves; lab coat; apron; or coveralls to prevent skin contact.</p> <p><b>Eye Protection:</b> Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.</p> <p><b>SECTION 7 Storage and Special Information</b></p> <p>Keep in a tightly closed container. Protect against physical damage. Protect from freezing.</p> <p><b>DOT Labeling / Shipping Requirements:</b> None. Product is not considered corrosive or otherwise hazardous by US DOT, CFR 49-173.136 and ASTM G 31-72.</p>

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