

BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

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| Common Name: Zinc Formalin (4:1 Concentrate) | Code: 0921, 0925 |
| Supplier: BBC Biochemical | MSDS#: 0921 |
| Synonym: None | Validation Date: 3-27-09 |
| Trade Name: None | Print Date: 3-27-09 |
| Material Uses: Fixation of tissues | 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# | OSHA/PEL | OSHA/STEL |
|---------------------|-----------|--------------|-------------|
| 1) Water | 7732-18-5 | | |
| 2) Formaldehyde 37% | 50-00-0 | 0.75 ppm TWA | 2 ppm 15min |
| 3) Zinc Salts | | | |

Section 3. Hazards Identification

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| Physical State and Appearance | Clear liquid. |
| 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. |
| Inhalation | Irritation to nose, throat and respiratory system. |
| Ingestion | May cause allergic reaction. Irritation to throat and respiratory system. |
| Potential Chronic Health Effects | Formaldehyde is a strong sensitizer and may cause an allergic reaction. |
| Medical Conditions | Respiratory conditions. |
| Aggravated by Overexposure | |
| Overexposure/Signs/Symptoms | |

Section 4. First Aid Measures

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| Eye Contact | Immediately flush thoroughly with water for at least 15 minutes. Corrosive Liquid can cause retinal damage or blindness. |
| Skin Contact | Wash thoroughly with 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 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

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| Flammability of the Product | Not flammable. |
| Auto-ignition Temperature | Not available. |
| Flash Points | None. |
| Flammable Limits | Not available. |
| Products of Combustion | Not available. |
| Fire Hazards in Presence Of Various Substances | Not available. |

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| 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

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| 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 its source, if this can be done without risk. Take up and containerize for proper disposal. Comply with Federal, State, and local regulations on reporting releases. |
| Large Spill and Leak | Same as above. |

Section 7, Handling and Storage

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| Handling | Do 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

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| Engineering Controls | Engineering and/or administrative controls should be implemented to reduce exposure. |
| 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. |
| Hands | Neoprene, Nitrile or equivalent. |
| Feet | Impervious protective footwear must be worn to prevent skin contact. |
| Personal Protection in Case of a Large Spill | Safety glasses with side shields, impervious clothing and footwear, gloves and respirator (if necessary). |
| Product Name | Exposure Limits |
| 1)Formaldehyde 37% CAS 50-00-0 | OSHA PEL 0.75ppm TWA |
| Consult Local authorities before acceptable exposure limits. | |

Section 9. Physical and Chemical Properties

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| Physical State and Appearance | Clear liquid. | Odor: | Not available. |
| Molecular Weight | Not applicable. | Taste: | Not available. |
| Molecular Formula | Not applicable. | Color: | Clear. |
| 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

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| Stability and Reactivity | Stable. |
| Conditions of Instability | Avoid contact with ignition sources. |
| Incompatibility with Various Substances | Acids, oxidizers, strong alkalies. Contact with HCl may cause formation of the potent carcinogen, bischloromethyl ether. |
| Hazardous Decomposition Products | CO _x , ZnO, SO _x . |
| Hazardous Polymerization | Not available. |

Section 11. Toxicological Information

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| Toxicity to Animals | LD50: Formaldehyde 37% CAS 50-00-0 orl-mus 42 mg/kg Formaldehyde DeMinimis/SARA 313%=0.1 LC50: Not available. |
| Chronic Effects on Humans | Formaldehyde has the potential to cause cancer in humans. Repeated and prolonged exposure increases the risk. In humans, formaldehyde exposure has been associated with cancers of the lungs, nasopharynx and oropharynx, and nasal passages. |
| Other Toxic Effects on Humans | |
| Special Remarks on Toxicity to Animals | Tests on laboratory animals indicate formaldehyde may cause tumors and may produce adverse mutagenic and reproductive effects. Cited in Registry of Toxic Effects of Substances (RTECS). |
| Special Remarks on Chronic Effects on Humans | Not available. |
| Special Remarks on Other Toxic Effects on Humans | Not available. |

Section 12. Ecological Information

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| 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

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| Waste Information | Not available. |
| Waste Stream | Not available. |
| Consult your local or regional authorities. | |

Section 14. Transport Information

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| DOT Classification | Corrosive, UN2209, Formaldehyde Solutions, 8, III |
| Marine Pollutant | Not available. |
| Hazardous Substances Reportable Quantity | Not available. |
| Special Provisions for Transport | Not applicable. |
| TDG Classification | Corrosive, UN2209, Formaldehyde Solutions, 8, III |
| ADR/RID Classification | ADR (Europe) Information not available. |
| IMO/IMDG Classification | IMDG Information not available |
| ICAO/IATA Classification | See IATA Regulations, Corrosive, UN2209, Formaldehyde Solutions, 8, III |

Section 15. Other Information

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| Label requirements | | | |
| Hazardous Material Information System (U.S.A.) | Health | 3 | National Fire Protection Association (U.S.A.) |
| | Fire Hazard | 2 | |
| | Reactivity | 0 | |
| | Personal Protection | | |
| | | | <p>Health Fire Hazard 3 2 Reactivity 0 Specific Hazard</p> |

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.