

BBC Biochemical

MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

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|--|---|
| Common Name: 10% Neutral Buffered Formalin | Code: 0100, 0143, 0150, 0151, MA0102010, MA0102011, MA0102012, MA0102014, |
| Supplier: BBC Biochemical | MSDS#: 0100 |
| Synonym: | Validation Date: 3-31-09 |
| Trade Name: Not available | Print Date: 3-31-09 |
| 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) Water | 7732-18-5 | Percentage composition is Withheld as a trade secret. | None established |
| 2) Formaldehyde 37% | 50-00-0 | | OSHA PEL 0.75ppm TWA |
| 3) Selected Buffers | Not available | | None established |

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 | |
| Medical Conditions Aggravated by Overexposure/Overexposure/Signs/Symptoms | Formaldehyde is a strong sensitizer and may cause an allergic reaction. |

Section 4. First Aid Measures

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| Eye Contact | Immediately flush thoroughly with water for at least 15 minutes. |
| 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 | >806°F (>430°C) based on formaldehyde |
| Flash Points | >200°F (>93°C) |
| Flammable Limits | Not flammable |
| Products of Combustion | Carbon Monoxide, irritating and toxic gases, carbon dioxide, formaldehyde. |
| Fire Hazards in Presence Of Various Substances | Open flame, sparks and static discharge. |

Explosion Hazards in Presence of Various Substances Thermal decomposition produces toxic fumes.

Fire Fighting Media and Instructions CO₂, foam, water. Wear self-contained breathing apparatus and protective clothing.

Protective Clothing (Fire)

Special Remarks on Fire Hazards

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 its 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. Always contact a permitted waste disposer (TSD) to assure compliance with all current local, state and federal regulations.

Large Spill and Leak Same as above.

Section 7, Handling and Storage

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

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). Engineering and/or administrative controls should be implemented to reduce exposure. Material must be handled or transferred in an approved fume hood or with adequate ventilation.

Hands Neoprene, nitrile or equivalent gloves.

Feet Not available.

Personal Protection in Case of a Large Spill Safety glasses with side shields, impervious protective clothing, respirator if necessary and neoprene, nitrile or equivalent gloves.

Product Name

Exposure Limits

1)Water None established
2)Formaldehyde 37% OSHA PEL 0.75ppm TWA
3)

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

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.

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|-----------------------------------|--------------------|
| 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 alkalis. Contact with HCl may cause formation of the potent carcinogen, bischloromethyl ether. |
| Hazardous Decomposition Products | Metal•O, HCl, CL, CO _x |
| Hazardous Polymerization | Not available. |

Section 11. Toxicological Information

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|---|---|---------------------|-------|---------------------|------------------|---------|-----|
| Toxicity to Animals | 37% Formaldehyde CAS 50-00-0 orl-rat LD50: 800mg/kg LC50: Not available. | | | | | | |
| | <table border="1"> <tr> <td>Chemical Name</td> <td>CAS #</td> <td>DeMinimis/SARA 313%</td> </tr> <tr> <td>Formaldehyde 37%</td> <td>50-00-0</td> <td>0.1</td> </tr> </table> | Chemical Name | CAS # | DeMinimis/SARA 313% | Formaldehyde 37% | 50-00-0 | 0.1 |
| Chemical Name | CAS # | DeMinimis/SARA 313% | | | | | |
| Formaldehyde 37% | 50-00-0 | 0.1 | | | | | |
| 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

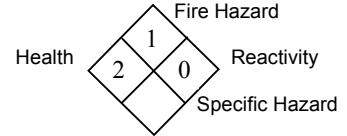
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| DOT Classification | Not regulated |
| Marine Pollutant | Not available. |
| Hazardous Substances Reportable Quantity | Not available. |
| Special Provisions for Transport | Not applicable. |
| TDG Classification | Not controlled under TDG (Canada). |
| ADR/RID Classification | Not controlled under ADR (Europe). |
| IMO/IMDG Classification | Not controlled under IMDG. |
| ICAO/IATA Classification | See IATA Regulations, UN3334, Aviation regulated liquid, n.o.s., (Formaldehyde), 9 |

Section 15. Other Information

Label requirements

| | | |
|---|----------------------------|---|
| Hazardous Material Information System (U.S.A.) | Health | 2 |
| | Fire Hazard | 1 |
| | Reactivity | 0 |
| | 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.