



# Safety Data Sheet

## 2% Formaldehyde

### 1. Identification

**Product Name:** 2% Formaldehyde**Item #:** RD0998**Web SDS:****Synonyms:** N/A**Recommended Use:** Laboratory Reagent**Restrictions on Use:** Any use other than recommended**Manufacturer:**

BBC Biochemical  
409 Eleanor Lane,  
Mount Vernon, WA 98273  
1-800-635-4477

**In Case of Emergency:**

Chemtrec US 1-800-424-9300  
Chemtrec International 703-527-3887

### 2. Hazards Identification

**OSHA Hazard Classification(s):**

Skin Irritation - Category 2  
Eye Irritation - Category 2A  
Sensitization - Respiratory - Category 1A  
Sensitization - Skin - Category 1A  
Germ Cell Mutagenicity - Category 1B  
Carcinogenicity - Category 1A  
Specific Target Organ Toxicity (single exposure) - Category 2  
Specific Target Organ Toxicity (repeated exposure) - Category 2

**Signal Word:** Danger**Hazard Statement(s):** Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. May cause damage to organs (lungs, nose). May cause damage to organs (lungs, nose) through prolonged or repeated exposure.**Pictogram(s):****Precautionary Statement(s):** Prevention: Wash body thoroughly after handling. Wear protective gloves. Wear eye protection, face protection. Avoid breathing dust, vapors. Wear NIOSH approved respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection and face protection. Do not breathe dust, vapors. Do not eat, drink or smoke when using this product.

Response: If on skin: Wash with plenty of water. Specific treatment (see first aid section on this label). If skin irritation or rash occurs: Get medical attention. Take off all contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing If eye irritation persists: Get medical attention. If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a doctor. If exposed or concerned: Get medical attention. If exposed or concerned: Call a doctor. Call a doctor if you feel unwell.

**Storage:** Store locked up.**Disposal:** Dispose of contents/container in accordance with local regulations.**Descriptions of Hazards not otherwise classified:** N/A**Percent of mixture with unknown acute toxicity:** N/A

### 3. Composition and Information on Ingredients

Chemical Name	Common Name	CAS #	Concentration %
Formaldehyde		50-00-0	2%
Water		7732-18-5	98%



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### 4. First Aid Measures

**Eye Contact:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin Contact:** If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

**Inhalation:** Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

**Ingestion:** Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

**Symptoms:** Irritation eyes, nose, throat; headache, dizziness

**Recommendations for immediate medical care/special treatment:** Get medical advice/attention if you feel unwell.

### 5. Fire- Fighting Measures

**Extinguishing Media:** Dry chemical, carbon dioxide, alcohol foam, water.

**Fire Hazards (Chemical):** Not flammable.

**Special Protective Equipment:** Fire fighters should use self-contained breathing apparatus and protective clothing.

**Precautions for Firefighters:** Carbon monoxide and unidentified organic compounds may be formed during combustion.

### 6. Accidental Release Measures

**Emergency Procedures:** Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.

**Protective Equipment:** See section 8

**Environmental Precautions:** Prevent release to the environment by using barriers.

**Containment and Clean-Up Procedures:** Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

### 7. Handling and Storage

**Handling:** Do not breathe vapors. Do not eat, drink or smoke when using this product.

**Storage:** Store locked up. Store in a well-ventilated, cool place. Keep lid tightly sealed when not in use.

### 8. Exposure Controls/Personal Protection

**OSHA Permissible Exposure Limits (PELs):**

Reagent	CAS #	OSHA PEL TWA
Formaldehyde	50-00-0	0.75ppm

**ACGIH Threshold Limit Values (TLVs):**

Reagent	CAS #	ACGIH PEL TLV	ACGIH STEL
Formaldehyde	50-00-0	0.3ppm (0.37mg/m3)	

**Engineering Controls:** Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.

**Personal Protective Measures:** Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.

**Special PPE Requirements:** If ventilation hood not available wear respirator.

### 9. Physical and Chemical Properties Section

**Appearance:** Colorless, Liquid

**Molecular Weight:** N/A

**Molecular Formula:** N/A

**pH:** 3.0-4.0

**Boiling Point and Boiling Range:** N/A



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**Melting Point/Freezing Point:** N/A  
**Flash Point:** N/A  
**Specific Gravity/Relative Density:** N/A  
**Odor:** N/A  
**Odor Threshold:** N/A  
**Color:** Colorless  
**Flammability (solid/gas):** N/A  
**Vapor Density:** N/A  
**Upper/Lower flammability or explosive limits:** N/A  
**Vapor Pressure:** N/A  
**Evaporation Rate:** N/A  
**Partition Coefficient: n-octanol/water:** N/A  
**Viscosity:** N/A  
**Auto-ignition temperature:** N/A  
**Solubility:** Miscible in water  
**Decomposition Temperature:** N/A

### 10. Stability and Reactivity

**Reactivity:** Not Reactive  
**Chemical Stability:** Stable  
**Conditions of Stability/Instability:** Stable under normal conditions of temperature and pressure  
**Stabilizers needed:** None  
**Safety issue indicated by appearance change:** N/A  
**Other:** N/A  
**Hazardous Reactions:** N/A  
**Hazardous Polymerization:** Does not occur  
**Conditions to avoid:** N/A  
**Classes of Incompatible Materials:** Oxidizers, Strong Acids, Strong Bases  
**Hazardous Decomposition Products:** Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (I.e. Carbon monoxide) may be released in a fire.

### 11. Toxicological Information

#### Likely Routes of Exposure

**Eyes:** Formaldehyde solutions splashed in the eye can cause injuries ranging from transient discomfort to severe, permanent corneal clouding and loss of vision. The severity of the effect depends on the concentration of formaldehyde in the solution and whether or not the eyes are flushed with water immediately after the accident.

**Skin:** Formalin is a severe skin irritant and a sensitizer. Contact with formalin causes white discoloration, smarting, drying, cracking, and scaling. Prolonged and repeated contact can cause numbness and a hardening or tanning of the skin. Previously exposed persons may react to future exposure with an allergic eczematous dermatitis or hives.

**Inhalation:** Formaldehyde is highly irritating to the upper respiratory tract and eyes. Concentrations of 0.5 to 2.0 ppm may irritate the eyes, nose, and throat of some individuals. Concentrations of 3 to 5 ppm also cause tearing of the eyes and are intolerable to some persons.

**Ingestion:** Severe stomach pains will follow ingestion with possible loss of consciousness and death. Ingestion of dilute formaldehyde solutions (0.03-0.04 percent) may cause discomfort in the stomach and pharynx.

**Signs or Symptoms of Exposure:** Chronic Effects of Exposure Carcinogenicity: Formaldehyde has the potential to cause cancer in humans. Repeated and prolonged exposure increases the risk. Various animal experiments have conclusively shown formaldehyde to be a carcinogen in rats. In humans, formaldehyde exposure has been associated with cancers of the lung, nasopharynx and oropharynx, and nasal passages. Mutagenicity: Formaldehyde is genotoxic in several in vitro test systems showing properties of both an initiator and a promoter. Toxicity: Prolonged or repeated exposure to formaldehyde may result in respiratory impairment. Rats exposed to formaldehyde at 2 ppm developed benign nasal tumors and changes of the cell structure in the nose as



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well as inflamed mucous membranes of the nose. Structural changes in the epithelial cells in the human nose have also been observed. Some persons have developed asthma or bronchitis following exposure to formaldehyde, most often as the result of an accidental spill involving a single exposure to a high concentration of formaldehyde. Note.-The perception of formaldehyde by odor and eye irritation becomes less sensitive with time as one adapts to formaldehyde. This can lead to overexposure if a worker is relying on formaldehyde's warning properties to alert him or her to the potential for exposure.

**Effects from short term exposure (delayed, immediate, chronic):** Irritation to the eyes, nose, throat; headache, dizziness, nausea. May cause cancer, mutagenic and reproductive effects. May effect organs (lungs, nose) after single or repeat exposure.

**Acute Toxicity (Numerical Measures):** Formaldehyde CAS 50-00-0: LD50 385 mg/kg (oral, mouse); LD50 100mg/kg (oral, rat) LC50 203 mg/m3 (inh, rat); LC50 454 mg/m3/4H (inh, mouse)

**Carcinogenicity (NTP, IARC, OSHA):** Contains Formaldehyde IARC Group 1 Carcinogen associated with nasal sinus cancer, nasopharyngeal cancer, myeloid leukemia.

### 12. Ecological Information

**Ecotoxicity:** Formaldehyde is highly toxic to algae, protozoa and other unicellular organisms and slightly toxic to fish. In the atmosphere the material is rapidly degraded by photolysis and photooxidation. Formaldehyde is mobile in the soil. In water or soil, formaldehyde is biodegraded in a few days. Experiments performed on a variety of fish and shrimp show no bioconcentration of formaldehyde.

**Persistence and degradability:** N/A

**Bioaccumulation Potential (octanol-water partition coefficient, BCF):** N/A

**Mobility in the soil:** N/A

**Adverse Environmental Effects:** N/A

### 13. Disposal Considerations

**Recommended Disposal Containers:** Check with your local waste authorities\*

**Recommended Disposal Methods:** Do not dispose of in drains, check with your local waste authorities.\*

**Physical/Chemical Properties affecting Disposal:** See section 2 and section 9 applicable information.\*

**Special Precautions for Landfill and Incineration Activities:** Check with your local waste authorities.\*

**Waste Stream:** Consult your local or regional authorities.\*

### 14. Transport Information

**UN Number:** Not regulated

**UN Proper Shipping Name:**

**Transport Hazard Class(es):**

**Packing Group Number:**

**Environmental Hazards (IMDG code):**

**Marine Pollutant:**

**Transport in Bulk (IBC Code):**

**Special Transport Precautions:**

### 15. Regulatory Information

**OSHA:** N/A

**DOT:** N/A

**EPA:** N/A

**CPSC:** N/A



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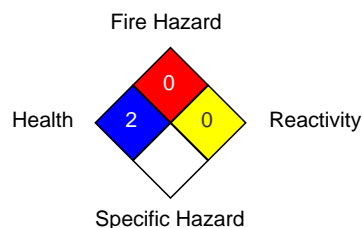
### 16. Other Information

Revision Date: 06/09/2015

#### NFPA

Health	2
Fire Hazard	0
Reactivity	0
Specific Hazard	

National Fire Protection Association (USA) NFPA



#### HMIS

Health	2
Flammability	0
Physical Hazard	0
Personal Protection	

Hazardous Material Information System HMIS

Health	2
Flammability	0
Physical Hazard	0
Personal Protection	

#### Notice to Reader:

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