



## Michels Solution

### 1. Identification

**Product Name:** Michels Solution

**Item #:** MA0102050, MA0102051, MA0102053, MA0102089, MA0102163, 0263, 0264, 0265, 0266, 0267, 0268, 0269

**Web SDS:** S27

**Synonyms:** Michel's Fixative

**Recommended Use:** Fixation

**Manufacturer:**

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

**Restrictions on Use:** N/A

**In Case of Emergency:**

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

### 2. Hazards Identification

**OSHA Hazard Classification(s):**

Acute Toxicity - Oral - Category 4

**Signal Word:** Warning

**Hazard Statement(s):** Harmful if swallowed.

**Pictogram(s):**



**Precautionary Statement(s):** Prevention: Wash body thoroughly after handling. Do not eat, drink or smoke when using this product.

Response: If swallowed: Call a doctor if you feel unwell. Rinse mouth.

Storage: N/A

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 % |
|------------------|-------------|--------------|-----------------|
| Water            |             | 7732-18-5    | Trade Secret    |
| Ammonium Sulfate |             | 7783-20-2    | Trade Secret    |
| Select Buffers   |             | Trade Secret | Trade Secret    |

### 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.



## Michels Solution

### 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 in a well-ventilated place. Keep cool. Keep lid tightly closed.

### 8. Exposure Controls/Personal Protection

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

| Reagent | CAS # | OSHA PEL TWA |
|---------|-------|--------------|
| N/A     |       |              |

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

| Reagent | CAS # | ACGIH PEL TLV | ACGIH STEL |
|---------|-------|---------------|------------|
| N/A     |       |               |            |

**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 to yellowish, Liquid

**Molecular Weight:** N/A

**Molecular Formula:** N/A

**pH:** 7.2

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

**Melting Point/Freezing Point:** N/A

**Flash Point:** N/A

**Specific Gravity/Relative Density:** N/A

**Odor:** Pungent

**Odor Threshold:** N/A

**Color:** Colorless to yellowish

**Flammability (solid/gas):** N/A

**Vapor Density:** N/A

**Upper/Lower flammability or explosive limits:** N/A

**Vapor Pressure:** N/A



## Michels Solution

**Evaporation Rate:** N/A  
**Partition Coefficient: n-octanol/water:** N/A  
**Viscosity:** N/A  
**Auto-ignition temperature:** N/A  
**Solubility:** N/A  
**Decomposition Temperature:** N/A

### 10. Stability and Reactivity

**Reactivity:**  
**Chemical Stability:**  
**Conditions of Stability/Instability:** N/A  
**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:** Irritation. May cause redness, pain and possible corneal damage.  
**Skin:** Irritation. May cause redness and pain.  
**Inhalation:** Dizziness, headache. May cause irritation of the mucous membranes with sore throat and coughing.  
**Ingestion:** Nausea. Irritation to the gastrointestinal system.

**Signs or Symptoms of Exposure:** Nausea.

**Effects from short term exposure (delayed, immediate, chronic):** Irritation to the eyes, nose, throat; headache, dizziness, nausea.

**Acute Toxicity (Numerical Measures):** Ammonium Sulfate: LD50(oral,mouse)=640 mg/kg, LD50(oral,rat)=2840mg/kg

**Carcinogenicity (NTP, IARC, OSHA):** N/A

### 12. Ecological Information

**Ecotoxicity:** N/A  
**Persistence and degradability:** N/A  
**Bioaccumulation Potential (octanol-water partition coefficient, BCF):** N/A  
**Mobility in the soil:** N/A  
**Adverse Environmental Effects:** May be toxic to aquatic life.

### 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



# Safety Data Sheet

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**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:**

**DOT:**

**EPA:**

**CPSC:**



# Safety Data Sheet

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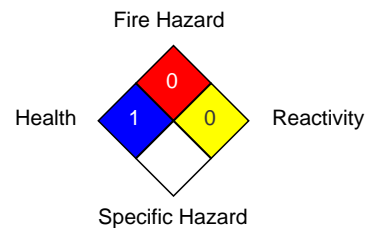
### 16. Other Information

Revision Date: 10/20/2014

#### NFPA

|                 |   |
|-----------------|---|
| Health          | 1 |
| Fire Hazard     | 0 |
| Reactivity      | 0 |
| Specific Hazard |   |

National Fire Protection Association (USA) NFPA



#### HMIS

|                     |   |
|---------------------|---|
| Health              | 1 |
| Flammability        | 0 |
| Physical Hazard     | 0 |
| Personal Protection |   |

Hazardous Material Information System HMIS

|                     |   |
|---------------------|---|
| Health              | 1 |
| Flammability        | 0 |
| Physical Hazard     | 0 |
| Personal Protection |   |

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