



# Safety Data Sheet

## SECTION 1: Identification

### 1.1. Product Identifier

**Trade Name or Designation:** Fehling's Solution A

**Product Number:** 7-20200

**Other Identifying Product Numbers:** 7-20200-3, 7-20200-5, C7202000-4A

### 1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

### 1.3. Details of the Supplier of the Safety Data Sheet

**Company:** Reagents Inc.

**Address:** 4746 Sweden Road  
Charlotte, NC 28224 USA

**Telephone:** 800-732-8484

### 1.4. Emergency Telephone Number (24 hr)

CHEMTREC (USA) 800-424-9300  
CHEMTREC (International) 1+ 703-527-3887

## Safety Data Sheet

### SECTION 2: Hazard(s) Identification

#### 2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

| Hazard Class                                                         | Category   | Hazard Statement | Precautionary Statements                                 |
|----------------------------------------------------------------------|------------|------------------|----------------------------------------------------------|
| Acute Toxicity - Oral                                                | Category 4 | H302             | P264, P270, P301+P312, P330, P501                        |
| Skin Corrosion / Irritation                                          | Category 2 | H315             | P264, P280, P302+P352, P321, P332+P313, P362             |
| Eye Damage / Irritation                                              | Category 1 | H318             | P280, P305+P351+P338, P310                               |
| Skin Sensitizer                                                      | Category 1 | H317             | P261, P272, P280, P302+P352, P332+P313, P321, P363, P501 |
| Germ Cell Mutagenicity                                               | Category 2 | H341             | P201, P202, P280, P308+P313, P405, P501                  |
| Reproductive Toxicity                                                | Category 2 | H361             | P201, P202, P280, P308+P313, P405, P501                  |
| Specific Target Organs/Systemic Toxicity Following Single Exposure   | Category 1 | H370             | P260, P264, P270, P307+P311, P321, P405, P501            |
| Specific Target Organs/Systemic Toxicity Following Repeated Exposure | Category 1 | H372             | P260, P264, P270, P314, P501                             |
| Hazardous to the Aquatic Environment (Acute)                         | Category 2 | H401             | P273, P501                                               |
| Hazardous to the Aquatic Environment (Chronic)                       | Category 2 | H401             | P273, P501                                               |

#### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

| Hazard Number | Hazard Statement                                                |
|---------------|-----------------------------------------------------------------|
| H302          | Harmful if swallowed.                                           |
| H315          | Causes skin irritation.                                         |
| H317          | May cause an allergic skin reaction.                            |
| H318          | Causes serious eye damage.                                      |
| H341          | Suspected of causing genetic defects.                           |
| H361          | Suspected of damaging fertility or the unborn child.            |
| H370          | Causes damage to organs.                                        |
| H372          | Causes damage to organs through prolonged or repeated exposure. |
| H401          | Toxic to aquatic life.                                          |

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### Precautionary Statements:

| Precautionary Number | Precautionary Statement                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P201                 | Obtain special instructions before use.                                                                                          |
| P202                 | Do not handle until all safety precautions have been read and understood.                                                        |
| P260                 | Do not breathe dust, fumes or mist.                                                                                              |
| P261                 | Avoid breathing dust, fumes or mist.                                                                                             |
| P264                 | Wash arms, hands and face thoroughly after handling.                                                                             |
| P270                 | Do not eat, drink or smoke when using this product.                                                                              |
| P272                 | Contaminated work clothing must not be allowed out of the workplace.                                                             |
| P273                 | Avoid release to the environment.                                                                                                |
| P280                 | Wear protective gloves and eye protection.                                                                                       |
| P301+P312            | IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.                                                              |
| P302+P352            | IF ON SKIN: Wash with plenty of soap and water.                                                                                  |
| P305+P351+P338       | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P307+P311            | IF exposed: Call a POISON CENTER or physician.                                                                                   |
| P308+P313            | IF exposed or concerned: Get medical attention.                                                                                  |
| P310                 | Immediately call a POISON CENTER or physician.                                                                                   |
| P314                 | Get medical attention if you feel unwell.                                                                                        |
| P321                 | Specific treatment (Wash areas of contact with water).                                                                           |
| P330                 | Rinse mouth.                                                                                                                     |
| P332+P313            | If skin irritation occurs: Get medical attention.                                                                                |
| P362                 | Take off contaminated clothing and wash it before reuse.                                                                         |
| P363                 | Wash contaminated clothing before reuse.                                                                                         |
| P405                 | Store locked up.                                                                                                                 |
| P501                 | Dispose of contents in accordance with local, state, federal and international regulations.                                      |

### 2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

### 2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

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### SECTION 3: Composition / Information on Ingredients

#### 3.1. Components of Substance or Mixture

| Chemical Name               | Formula                              | Molecular Weight | CAS Number | Weight% |
|-----------------------------|--------------------------------------|------------------|------------|---------|
| Water                       | H <sub>2</sub> O                     | 18.01 g/mol      | 7732-18-5  | 93.34%  |
| Copper Sulfate Pentahydrate | CuSO <sub>4</sub> ·5H <sub>2</sub> O | 249.68 g/mol     | 7758-99-8  | 6.66%   |

### SECTION 4: First-Aid Measures

#### 4.1. General First Aid Information

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

**Inhalation:** Not expected to require first aid. If necessary, remove to fresh air.

**Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. May cause irritation, redness, and pain.

**Ingestion:** IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Dilute immediately with water or milk. Induce vomiting. Call a physician.

#### 4.2. Most Important Symptoms and Effects, Acute and Delayed

Avoid ingestion or contact with skin, eyes, or clothing. May cause irritation upon contact. If ingested, dilute with water or milk and induce vomiting. Call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, and pain.

#### 4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water).

### SECTION 5: Fire-Fighting Measures

#### 5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

#### 5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

#### 5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

### SECTION 6: Accidental Release Measures

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

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### 6.2. Cleanup and Containment Methods and Materials

Do not flush to sewer. Absorb with suitable material. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.

## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

## SECTION 8: Exposure Controls / Personal Protection

### 8.1. Control Parameters

| Chemical Name                              | Limit Type | Country | Exposure Limit                                 | Information Source                                                |
|--------------------------------------------|------------|---------|------------------------------------------------|-------------------------------------------------------------------|
| Copper Sulfate Pentahydrate<br>(7758-99-8) | TLV-TWA    | USA     | 1 mg/m <sup>3</sup> TWA (dust and mist, as Cu) | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |

### 8.2. Exposure Controls

**Engineering Controls:** No specific controls are needed. Normal room ventilation is adequate.

**Respiratory Protection:** Normal room ventilation is adequate.

**Skin Protection:** Wear protective gloves and eye protection. Chemical resistant gloves.

**Eye Protection:** Wear protective gloves and eye protection. Safety glasses or goggles.

### 8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

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### SECTION 9: Physical and Chemical Properties

#### 9.1. Basic Physical and Chemical Properties

**Appearance:** Blue liquid

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Data not available.

**Melting/Freezing Point:** Approximately 0°C

**Initial Boiling Point /Range:** Approximately 100°C - Approximately 100°C

**Flash Point:** Data not available.

**Evaporation Rate:** Data not available.

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Vapor Pressure:** Data not available.

**Vapor Density:** Data not available.

**Relative Density:** 1.04

**Solubility:** Miscible

**Partition Coefficient (n-Octanol/Water):** Data not available.

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**Viscosity:** Data not available.

**Explosive Properties:** Data not available.

**Oxidizing Properties:** Data not available.

### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

#### 10.2. Possibility of Hazardous Reactions

Data not available.

#### 10.3. Conditions to Avoid and Incompatible Materials

Hydroxylamine, alkalis, phosphates, hydrazine, sulfuric acid, finely powdered metals, active metals (Potassium, Sodium, Magnesium and Zinc).

#### 10.4. Hazardous Decomposition Products

Will not occur.



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### SECTION 11: Toxicological Information

#### 11.1. Information on Toxicological Effects

##### **Acute Toxicity - Oral Exposure:**

Harmful if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Dispose of contents in accordance with local, state, federal and international regulations.

##### **Acute Toxicity - Dermal Exposure:**

Not applicable.

##### **Acute Toxicity - Inhalation Exposure:**

Not applicable.

##### **Acute Toxicity - Other Information:**

LD50, Oral, Rat: 300 mg/kg (Copper Sulfate), details of toxic effects not reported other than lethal dose value.

##### **Skin Corrosion and Irritation:**

Causes skin irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (Wash areas of contact with water). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

##### **Serious Eye Damage and Irritation:**

Causes serious eye damage. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

##### **Respiratory Sensitization:**

Not applicable.

##### **Skin Sensitization:**

May cause an allergic skin reaction. Avoid breathing dust, fumes or mist. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical attention. Specific treatment (Wash areas of contact with water). Wash contaminated clothing before reuse. Dispose of contents in accordance with local, state, federal and international regulations.

##### **Germ Cell Mutagenicity:**

Suspected of causing genetic defects. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

##### **Carcinogenicity:**

Not applicable.

##### **Reproductive Toxicity:**

Suspected of damaging fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.



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### **Specific Target Organ Toxicity from Single Exposure:**

Causes damage to organs. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

### **Specific Target Organ Toxicity from Repeated Exposure:**

Causes damage to organs through prolonged or repeated exposure. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

### **Aspiration Hazard:**

Not applicable.

### **Additional Toxicology Information:**

Data not available.

## SECTION 12: Ecological Information

### **12.1. Ecotoxicity**

Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations. Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

### **12.2. Persistence and Degradability**

Data not available.

### **12.3. Bioaccumulative Potential**

Data not available.

### **12.4. Mobility in Soil**

Data not available.

### **12.5. Other Adverse Ecological Effects**

Data not available.

## SECTION 13: Disposal Considerations

### **13.1. Waste Treatment Methods**

Data not available.



## Safety Data Sheet

### SECTION 14: Transportation Information

#### 14.1. Transportation by Land - Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

#### 14.2. Transportation by Air - International Air Transport Association (IATA)

UN Number: N/A

Proper Shipping Name:

Hazard Class:

Packing Group:

Hazard Placard Labels:

### SECTION 15: Regulatory Information

#### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

#### 15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

#### 15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Copper Sulfate Pentahydrate (CAS # 7758-99-8): 10 lb final RQ; 4.54 kg final RQ

#### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Copper Sulfate Pentahydrate (CAS # 7758-99-8): 1.0 % de minimis concentration (This category does not include CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only hydrogen and/or chlorine and/or bromine.)

#### 15.5. Massachusetts Right-to-Know Substance List

Copper Sulfate Pentahydrate (CAS # 7758-99-8): Present



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### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Water (CAS # 7732-18-5): Present

Copper Sulfate Pentahydrate (CAS # 7758-99-8): Environmental hazard

Copper Sulfate Pentahydrate (CAS # 7758-99-8): Present

### 15.7. New Jersey Worker and Community Right-to-Know Components

Copper Sulfate Pentahydrate (CAS # 7758-99-8): sn 0549

Copper Sulfate Pentahydrate (CAS # 7758-99-8): sn 2215

Copper Sulfate Pentahydrate (CAS # 7758-99-8): SN 2215 TPQ: 500 lb (Category Code N100. Includes any unique chemical substance that contains the named metal as part of that chemical structure, except C.I. Pigment Blue 15, C.I. Pigment Green 7, and C.I. Pigment Green 36)

### 15.8. California Proposition 65

Not listed.

### 15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Water (CAS # 7732-18-5): Present

Copper Sulfate Pentahydrate (CAS # 7758-99-8): Present

### 15.10. United States of America Toxic Substances Control Act (TSCA) List

Water (CAS # 7732-18-5): Present

Copper Sulfate Pentahydrate (CAS # 7758-99-8): Present

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Not listed.

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### SECTION 16: Other Information

#### 16.1. Full Text of Hazard Statements and Precautionary Statements

Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and eye protection.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). Rinse mouth. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

#### 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

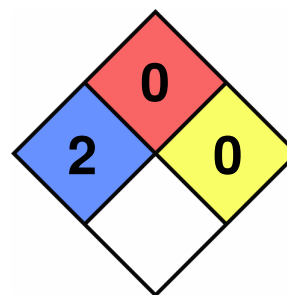
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

#### 16.3. National Fire Protection Association (NFPA) Rating

Health: 2  
Flammability: 0  
Reactivity: 0  
Special Hazard:



#### 16.4. Document Revision

Last Revision Date: 6/23/2015



## Safety Data Sheet

### DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and REAGENTS, INC. assumes no legal responsibility or liability whatsoever resulting from its use.