

SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

GHS Product identifier: FEHLING'S SOLUTION A

Other means of identification

Product No.: 5918, H118

Recommended use of the chemical and restrictions on use

Recommended use: Not available.

Recommended restrictions: Not known.

Supplier's details

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

GHS classification of substance or mixture, and national or regional information:

Health Hazards

Skin Corrosion/Irritation Category 3

Environmental Hazards

Chronic hazards to the aquatic environment Category 2

GHS label elements

Hazard symbol(s): No symbol

Signal Word: Warning

Hazard Statement(s): Causes mild skin irritation.
Toxic to aquatic life.

Precautionary statement(s):

Prevention: Avoid release to the environment.

Response: If skin irritation occurs: Get medical advice/attention. Collect spillage.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

| Chemical Identity | Common name and synonyms | CAS number | Concentration* |
|-------------------|--------------------------|------------|----------------|
| CUPRIC SULFATE | No data available. | 7758-98-7 | 1.0 - 10% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Description of necessary first-aid measures

Ingestion: Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.

Eye contact: Flush thoroughly with water. If irritation occurs, get medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms: May cause irritation to skin, eyes, and respiratory tract.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective action for fire fighters

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| Special fire fighting procedures: | Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out. |
| Special protective equipment for fire-fighters: | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures: | Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. |
| Environmental Precautions: | Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |
| Methods and material for containment and cleaning up: | Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. |
| Notification Procedures: | Inform authorities if large amounts are involved. Prevent runoff from entering drains, sewers, or streams. |

7. Handling and storage

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| Precautions to ensure safe handling: | Use personal protective equipment as required. Avoid breathing mist or vapor. Wash hands thoroughly after handling. Avoid contact with eyes. Avoid contact with skin. |
| Conditions for safe storage, including any incompatibilities: | Keep container tightly closed. Store in a cool, dry place. Store in a well-ventilated place. |

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Biological Limit Values

None of the components have assigned exposure limits.

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| Appropriate Engineering Controls: | No data available. |
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Individual protection measures, such as personal protective equipment

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| General information: | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| Eye/face protection: | Use eye protection. |
| Skin Protection | |

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| Hand Protection: | Wear protective gloves. |
| Other: | Wear suitable protective clothing. |
| Respiratory Protection: | In case of inadequate ventilation use suitable respirator. |
| Hygiene measures: | Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. |

9. Physical and chemical properties

Appearance

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| Physical state: | Liquid |
| Form: | Liquid |
| Color: | Pale green |
| Odor: | Odorless |
| Odor threshold: | No data available. |
| pH: | No data available. |
| Melting point/freezing point: | 0 °C |
| Initial boiling point and boiling range: | 100 °C |
| Flash Point: | Not applicable |
| Evaporation rate: | No data available. |
| Flammability (solid, gas): | No data available. |
| Upper/lower limit on flammability or explosive limits | |
| Flammability limit - upper (%): | No data available. |
| Flammability limit - lower (%): | No data available. |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | No data available. |
| Vapor density: | No data available. |
| Relative density: | 1.04 (20 °C) |
| Solubility(ies) | |
| Solubility in water: | Completely Soluble |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |
| Viscosity: | No data available. |

10. Stability and reactivity

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| Reactivity: | No dangerous reaction known under conditions of normal use. |
| Chemical Stability: | Material is stable under normal conditions. |
| Possibility of Hazardous Reactions: | Hazardous polymerization does not occur. |
| Conditions to Avoid: | Contact with incompatible materials. |
| Incompatible Materials: | Strong oxidizing agents. Metal oxides. |

**Hazardous Decomposition
Products:**

oxides of copper Oxides of sulfur.

11. Toxicological information**Information on likely routes of exposure****Ingestion:** May be harmful if swallowed.**Inhalation:** May be harmful if inhaled.**Skin Contact:** Causes mild skin irritation.**Eye contact:** May irritate eyes.**Symptoms related to the physical, chemical and toxicological characteristics****Ingestion:** No data available.**Inhalation:** No data available.**Skin Contact:** No data available.**Eye contact:** No data available.**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)****Oral****Product:** ATEmix (Rat: 6,772 mg/kg**Dermal****Product:** ATEmix (Rat: > 6,000 mg/kg**Inhalation****Product:** No data available.**Repeated Dose Toxicity****Product:** No data available.**Skin Corrosion/Irritation****Product:** Causes mild skin irritation.**Serious Eye Damage/Eye Irritation****Product:** May irritate eyes.**Respiratory or Skin Sensitization****Product:** Not a skin sensitizer.**Carcinogenicity****Product:** This substance has no evidence of carcinogenic properties.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

ACGIH Carcinogen List:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive Toxicity
Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure
Product: None known.

Specific Target Organ Toxicity - Repeated Exposure
Product: None known.

Aspiration Hazard
Product: Not classified

Other Effects: None known.

12. Ecological information

Ecotoxicity

Acute hazards to the aquatic environment

Fish
Product: LC 50 (Western mosquitofish (*Gambusia affinis*), 4 d): 2.89 mg/l Mortality
LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 17.38 mg/l Mortality

Aquatic Invertebrates
Product: LC 50 (Snail (*Indoplanorbis exustus*), 48 h): 6.55 mg/l Mortality
LC 50 (Tubificid worm (*Tubifex tubifex*), 48 h): 5.87 mg/l Mortality

Chronic hazards to the aquatic environment

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: LC 50 (Blue-green algae (*Spirulina platensis*), 86.4 h): 15.80 mg/l Mortality

Persistence and Degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log K_{ow})**Product:** No data available.**Mobility****Mobility in Soil:** The product is water soluble and may spread in water systems.**Other Adverse Effects:** Very toxic to aquatic life with long lasting effects.**13. Disposal considerations****Disposal methods****Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.**14. Transport information****IATA**

Not regulated.

IMDG

Not regulated.

15. Regulatory information**Safety, health and environmental regulations specific for the product in question****Thailand. Hazardous Substances Prohibited from On-line Notification System (Notification of Ministry of Industry, B.E. 2547)**
Not Regulated**Thailand. Notification of Ministry of Industry, Re: List of Hazardous Substances B.E. 2538**
CUPRIC SULFATE**Thailand. Hazardous Substances under Chapter 3, Duties and Civil Liabilities (Notification of Ministry of Industry Re: Hazardous Substances under Chapter 3 of Hazardous Substances Act)**
Not Regulated**Thailand. Notification of the Ministry of Interior, Re: Work Safety Relating to Dangerous Chemicals**
Not Regulated**Thailand. Notification of the Ministry of Interior, Re: Work Safety Relating to More Dangerous Chemicals**
Not Regulated**Thailand. Reportable Hazardous Substances (Notification of Ministry of Industry Re: Bases respecting report of quantity of hazardous materials under Department of Industrial Works, B.E. 2547)**
Not Regulated**International regulations**

Montreal protocol

Not Applicable

Stockholm convention

Not Applicable

Rotterdam convention

Not Applicable

Kyoto protocol

Not Applicable

Inventory Status:

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| Australia AICS: | On or in compliance with the inventory |
| Canada DSL Inventory List: | On or in compliance with the inventory |
| EINECS, ELINCS or NLP: | On or in compliance with the inventory |
| Japan (ENCS) List: | On or in compliance with the inventory |
| China Inv. Existing Chemical Substances: | On or in compliance with the inventory |
| Korea Existing Chemicals Inv. (KECI): | On or in compliance with the inventory |
| Canada NDSL Inventory: | Not in compliance with the inventory. |
| Philippines PICCS: | On or in compliance with the inventory |
| US TSCA Inventory: | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals: | On or in compliance with the inventory |
| Japan ISHL Listing: | Not in compliance with the inventory. |
| Japan Pharmacopoeia Listing: | Not in compliance with the inventory. |

16. Other information, including date of preparation or last revision

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| Issue Date: | 05.01.2015 |
| Revision Date: | No data available.No data available. |
| Version #: | 1.0 |
| Source of information: | No data available. |
| Further Information: | No data available. |

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