Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 01.06.2015

Fehlings Solution A

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: Fehlings Solution A

Manufacturer/Supplier Article number: S25313

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
800 955-1177

Emergency telephone number:

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazards identification

Classification of the substance or mixture:

Irritant
Skin sensitization, category 1
Eye irritation, category 2B
Skin irritation, category 2

Environmentally Damaging
Acute hazards to the aquatic environment, category 2

Health hazard
Specific target organ toxicity following repeated exposure, category 2

Skin sensitizers - Category 1.
Hazardous to aquatic environment - acute hazard - Category 2.
Skin corrosion/irritation - Category 2.
Serious Eye Damage/Eye Irritation - Category 2.
Specific target organ toxicity - Repeated exposure - Oral - Category 2: May cause damage to hematopoietic system, kidneys, liver, and/or stomach through prolonged or repeated exposure if swallowed.

Signal word: Warning

Hazard statements:

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life.

Precautionary statements:

If medical advice is needed have product container or label at hand.

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Keep out of reach of children.
Read label before use.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Contaminated work clothing should not be allowed out of the workplace.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with soap and water.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
If eye irritation persists get medical advice/attention.
Collect spillage.
Get Medical advice/attention if you feel unwell.
Dispose of contents and container to an approved waste disposal plant.

Other Non-GHS Classification: None

SECTION 3: Composition/information on ingredients

Ingredients:

Ingredients:		
CAS 7758-99-8	Copper Sulfate	6.92 %
CAS 7732-18-5	Water, purified	93.08 %
		Percentages are by weight

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Give artificial respiration if necessary. Get medical assistance if cough or other symptoms appear.

After skin contact:

Wash affected area with soap and water. Seek medical advice if discomfort or irritation persists.

After eye contact:

Protect unexposed eye. Rinse or flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Continue rinsing eyes for an additional 15 minutes. Immediately get medical assistance.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention immediately.

Most important symptoms and effects, both acute and delayed:

Shortness of breath. Irritation. Nausea. Headache.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

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SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

Unsuitable extinguishing agents:

No information available.

Special hazards arising from the substance or mixture:

May react with metals to release hydrogen gas.

Advice for firefighters:

Protective equipment:

Wear protective eyewear, gloves, and clothing.

Additional information (precautions):

Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

Environmental precautions:

Not relevant considering the small amounts used.

Methods and material for containment and cleaning up:

Keep in suitable closed containers for disposal. Refer to Section 8. If necessary use trained response staff or contractor. Absorb with suitable material. Wear protective eyeware, gloves, and clothing. Always obey local regulations. Containerize for disposal. Refer to Section 13.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Wash hands after handling. Follow proper disposal methods. Refer to Section 13. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials. Protect from freezing and physical damage.

SECTION 8: Exposure controls/personal protection

Control parameters:	7732-18-5, Water, purified, ACGIH TLV: NA, OSHA PEL: NA. 7758-99-8, Copper Sulfate, ACGIH TLV: NA, OSHA PEL: NA.
Appropriate engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Normal ventilation is adequate. Ensure eyewash and safety showers are available.

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Respiratory protection:	Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.
Protection of skin:	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.
Eye protection:	Safety glasses with side shields or goggles. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
General hygienic measures:	Before rewearing wash contaminated clothing. Wash hands and exposed skin with soap and plenty of water. Perform routine housekeeping. Avoid contact with skin, eyes, and clothing.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, blue liquid	**Explosion limit lower**: **Explosion limit upper**:	Not determined. Not determined.
Odor:	Odorless	**Vapor pressure at 20°C**:	Not determined.
Odor threshold:	Not determined.	**Vapor density**:	Not determined.
pH-value:	Not determined.	**Relative density**:	~ 1.0 - 1.2
Melting/Freezing point:	Approx. 0°C	**Solubilities**:	soluble
Boiling point/Boiling range:	Approx. 100C	**Partition coefficient (n-octanol/water)**:	Not determined.
Flash point (closed cup):	Not determined.	**Auto/Self-ignition temperature**:	Not determined.
Evaporation rate:	Not determined.	**Decomposition temperature**:	Not determined.
Flammability (solid, gaseous):	Not determined.	**Viscosity**:	a. Kinematic: Not determined. b. Dynamic: Not determined.
Density at 20°C:	Not determined.		

SECTION 10: Stability and reactivity

Reactivity:

Nonreactive under normal conditions.

Chemical stability:

Stable under normal conditions of use and storage.

Possible hazardous reactions: None

Conditions to avoid:

Incompatible materials.

Incompatible materials:

Hydroxylamine, phosphates, alkalis, sulfuric acid, hydrazine, finely powdered metals, active metals.

Hazardous decomposition products:

Highly toxic fumes of Sulfur oxides.

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SECTION 11: Toxicological information

Acute Toxicity: No additional information.
Chronic Toxicity: No additional information.
Skin corrosion/irritation: No additional information.
Serious eye damage/irritation: No additional information.
Respiratory or skin sensitization: No additional information.
Carcinogenicity: No additional information.

Germ cell mutagenicity: No additional information.
Reproductive Toxicity: No additional information.
STOT-single and repeated exposure: No additional information.
Additional toxicological information:

No additional information.

SECTION 12: Ecological information

Ecotoxicity:

Copper Sulfate, Copper has high chronic and acute toxicity to aquatic life.
Copper Sulfate, 96 Hr LC50 Lepomis macrochirus: 0.66 - 1.15 mg/L [semi-static]; 96 Hr LC50 Lepomis macrochirus: 0.96 - 1.8 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.1478 - 0.165 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.09 - 0.19 mg/L [static]; 96 Hr LC50 Pimephales promelas: 0.6752 mg/L [static].

Persistence and degradability:

Highly persistent with a >200 day half-life. Not expected to biodegrade.

Bioaccumulative potential:

This material is expected to bioaccumulate significantly.

Mobility in soil: No additional information.
Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

SECTION 14: Transport information

US DOT

UN Number:
ADR, ADN, DOT, IMDG, IATA — Not regulated

Limited Quantity Exception: — None

Bulk:
RQ (if applicable): None
Proper shipping Name: Not regulated.
Hazard Class: None

Non Bulk:
RQ (if applicable): None
Proper shipping Name: Not regulated.
Hazard Class: None

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Packing Group: Not regulated.
Marine Pollutant (if applicable): No
additional information.
Comments: None

Packing Group: Not regulated.
Marine Pollutant (if applicable): No
additional information.
Comments: None

SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute

SARA Section 313 (Specific toxic chemical listings):

7758-99-8 N100 Copper Compounds.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) :

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7758-99-8 Copper Sulfate Pentahydrate 10 lbs.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL) :

12125-02-9 Not Regulated.: not listed.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

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NFPA: 2-0-0
HMIS: 2-0-0
GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG	International Maritime Code for Dangerous Goods.
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (division of the American Chemical Society).
NFPA	National Fire Protection Association (USA).
HMIS	Hazardous Materials Identification System (USA).
WHMIS	Workplace Hazardous Materials Information System (Canada).
DNEL	Derived No-Effect Level (REACH).