

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.12.2015

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Fehlings Solution B

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

Product name: Fehlings Solution B

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25314

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
(724)517-1954

Emergency telephone number:

Fisher Science Education
Emergency Telephone No.: 800-535-5053

SECTION 2: Hazards identification

Classification of the substance or mixture:



Corrosive

Serious eye damage, category 1
Skin corrosion, category 1A



Health hazard

Carcinogenicity, category 2

Skin Corr. 1.

Corrosive to metals. 1.

Eye corr. 1.

Signal word: Danger

Hazard statements:

May be corrosive to metals.
Causes serious eye damage.
Causes severe skin burns and eye damage.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Use personal protective equipment as required.

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Contaminated work clothing should not be allowed out of the workplace.

Wash skin thoroughly after handling.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Store locked up.

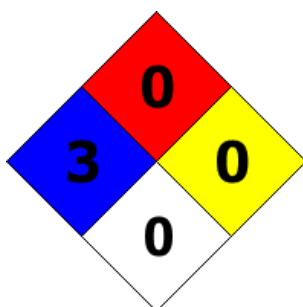
Dispose of contents/container to

Other Non-GHS Classification:

WHMIS



NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3: Composition/information on ingredients

Ingredients:		
CAS 7732-18-5	Deionized Water	40.4 %
CAS 1310-58-3	Potassium Hydroxide	25 %
CAS 6381-59-5	Potassium Sodium Tartrate, ACS	34.6 %
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. Seek medical advice if discomfort or irritation persists.

After skin contact:

Wash hands and exposed skin with soap and plenty of water for 15-20 minutes. Immediately get medical assistance if irritation occurs.

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After eye contact:

Protect unexposed eye. Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance. Remove contact lens(es) if able to do so during rinsing.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Dilute mouth with water. Immediately get medical assistance.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

Unsuitable extinguishing agents:

Do NOT use water directly on fire.

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors.

Advice for firefighters:

Protective equipment:

Use normal procedures. Use protective clothing. Use NIOSH approved breathing equipment.

Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Ensure adequate ventilation. Avoid contact with skin, eyes, and clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Always obey local regulations. Place into properly labeled containers for recovery or disposal. If necessary use trained response staff or contractor. Wear protective eyewear, gloves, and clothing. Absorb with suitable material and containerize for disposal. Neutralize with soda ash or slaked lime.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Refer to Section 8.

Conditions for safe storage, including any incompatibilities:

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Store away from oxidizing agents. Protect from freezing and physical damage. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store in cool, dry conditions in well sealed containers. Store with like hazards.

SECTION 8: Exposure controls/personal protection



Control Parameters:

No applicable occupational exposure limits.

Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Respiratory protection:

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. Use under a fume hood.

Protection of skin:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection:

Safety glasses with side shields or goggles.

General hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Before wearing again wash contaminated clothing. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin. Wash hands and exposed skin with soap and plenty of water. Perform routine housekeeping to prevent dust generation.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, colorless 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:	>1
pH-value:	strongly basic	Relative density:	Not Determined
Melting/Freezing point:	Approx 0° C	Solubilities:	None
Boiling point/Boiling range:	Approx 100° C	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

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Density at 20°C:

1.24

Hydrochloric Acid:MW is36.46

SECTION 10: Stability and reactivity

Reactivity:

None under normal processing.

Chemical stability:

No decomposition if used and stored according to specifications.

Possible hazardous reactions:

None under normal processing.

Conditions to avoid:

Incompatible materials. Excess heat.

Incompatible materials:

Oxides of potassium, oxides of sodium, oxides of carbon.

Hazardous decomposition products:

Fumes of hydrogen chloride and hydrogen in contact with metals. Oxides of carbon. Nitrogen oxides (NOx), Hydrogen Chloride gas. Ammonia (NH3).

SECTION 11: Toxicological information

Acute Toxicity:

Oral:

(Potassium Hydroxide) LD50-rat: 273 mg/m3

Chronic Toxicity: No additional information.

Corrosion Irritation:

Dermal:

Hydrochloric cid May cause irritation, redness, pain, itching

Ocular:

Hydrochloric cid May cause irritation, redness, pain, itching, and damage.

Sensitization: No additional information.

Numerical Measures: No additional information.

Carcinogenicity:

Hydroxylammonium Chloride: Suspected human carcinogens.

Mutagenicity:

Rat: Embryo Morphological transformation. Hamster: Lungs Sister chromatid exchange.

Reproductive Toxicity: No additional information.

SECTION 12: Ecological information

Ecotoxicity: No additional information.

Persistence and degradability:

Readily degradable in the environment.

Bioaccumulative potential:

Not Bioaccumulative.

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Mobility in soil:

Aqueous solution has high mobility in soil.

Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry. Decant to drain. Treat the solid residue as normal refuse. All chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations. Do not allow product to reach sewage system or open water. Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. Contact a licensed professional waste disposal service to dispose of this material.

SECTION 14: Transport information

US DOT

UN Number:

ADR, ADN, DOT, IMDG, IATA

1814

Limited Quantity Exception:

None

Bulk:

RQ (if applicable): None

Proper shipping Name: Potassium Hydroxide Solution.

Hazard Class: 8

Packing Group: II.

Marine Pollutant (if applicable): No additional information.

Comments: None

Non Bulk:

RQ (if applicable): None

Proper shipping Name: Potassium Hydroxide Solution.

Hazard Class: 8

Packing Group: II.

Marine Pollutant (if applicable): No additional information.

Comments: None



SECTION 15: Regulatory information

United States (USA)

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

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

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):

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1310-58-3 Potassium Hydroxide 1000 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):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 1%):

7647-01-0 Hydrochloric Acid.

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. 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. 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. 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.

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).

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TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IMDG International Maritime Code for Dangerous Goods.
PNEC Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
IATA International Air Transport Association.
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).
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).
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).
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