

Safety Data Sheet **FEHLING'S SOLUTION No.1**

SDS no. WSMMYT2U • Version 1.0 • Date of issue: 2022-01-30

SECTION 1: Identification

GHS Product identifier

Product name FEHLING'S SOLUTION No.1

Recommended use of the chemical and restrictions on use

Used with Fehling's Solution No. 2 as a test for sugars, aldehydes, etc. This product supplied by Chem-Supply is for education/research use only.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 1
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H318	Causes serious eye damage
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician
P391	Collect spillage.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Other components either not classified as Hazardous under the GHS, or below cut-off concentrations to be classified as Hazardous.

Components

Component	Concentration
Copper(II) sulfate pentahydrate (CAS no.: 7758-99-8; EC no.: 231-847-6; Index no.: 029-023-00-4)	5 - <= 10 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Serious eye damage/eye irritation, Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H302 - Harmful if swallowed; H318 - Causes serious eye damage; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects. [SCLs/M-factors/ATEs]: M=10	

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).
If inhaled	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
In case of skin contact	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.
In case of eye contact	If in eyes wash out immediately with water.
If swallowed	If swallowed, do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam. This material is substantially water.

Specific hazards arising from the chemical

Runoff may pollute waterways.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generating and inhaling mist.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area, out of direct sunlight. Store in suitable, labelled containers. Keep containers tightly closed. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Normally not required but if in doubt ensure hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear bright blue solution.
Color	Bright blue
Odor	Nil
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	>100 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	1.04
Relative vapor density	No data available.

Particle characteristics

No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

None under normal use conditions.

Chemical stability

Stable under ordinary conditions of use and storage.

Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

Conditions to avoid

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: May cause repeated vomiting, burning pain in the mouth, throat, esophagus and stomach, diarrhea, nausea, abdominal pain and ulceration of the gastrointestinal tract. If vomiting does not occur immediately, systemic copper poisoning may occur. Symptoms may include capillary damage, headache, cold sweat, weak puls, kidney and liver damage, central nervous excitation followed by depression, jaundice, convulsions, blood effects, paralysis and coma. Death may occur from shock or renal failure.

Inhalation: Mist may cause irritation of the nasal passages, throat and respiratory tract. Symptoms may include coughing, sore throat and shortness of breath. May result in ulceration and perforation of the respiratory tract.

Skin corrosion/irritation

May cause redness and itching. Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Serious eye damage/irritation

Risk of serious damage to eyes.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis.

SECTION 12: Ecological information

Toxicity

Information on Ecological Effects: Severe marine pollutant - IMDG Code.

Toxic to aquatic life.

96-hour LC50 (fish): <1 mg/L (Cu).

96-hour LC50 (algae): <1 mg/L (Cu).

Environmental Protection: Contain spillage.

When released into the soil, this material is not expected to biodegrade and may leach into ground water. When released into the water, this material is not expected to biodegrade or evaporate significantly. This material is expected to bioaccumulate significantly.

Acute Toxicity - Fish: The following applies to copper compounds: biological effects: toxic for aquatic organisms; copper ions toxic for fish at concentrations below 1mg/l.

Fish (C. auratus): toxic from 0.01 mg/l

Acute Toxicity - Other Organisms: The following applies to copper compounds: biological effects: toxic for aquatic organisms; copper ions toxic for other organisms at concentrations below 1mg/l

Mussels: 0.55 mg/l lethal in 12 hr.

Oysters: 0.1 mg/l toxic.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 3082

Class: 9

Packing Group: III

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS COPPER SULPHATE)

Hazchem emergency action code (EAC)

•3Z

IMDG

UN Number: 3082

Class: 9

Packing Group: III

EMS Number:

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS COPPER SULPHATE)

IATA

UN Number: 3082

Class: 9

Packing Group: III

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS COPPER SULPHATE)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: S5

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.