

SAFETY DATA SHEET

According to regulation (CE) No. 1907/2006



Revision date : 24/11/2016

Version 16.2

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Catalogue No **916A**
Product name **Fehling's solution A**
REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for analysis

1.3 Details of the supplier of the safety data sheet

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courriel : info@dujardin-salleron.com - site : www.dujardin-salleron.com

1.4 Emergency telephone number France : INRS : +33 (0)1 45 42 59 59

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (Regulation (CE) N° 1272/2008)

Hazardous to the aquatic environment, Chronic hazard, Category 2, H411
For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labeling (Regulation (CE) N° 1272/2008)

Hazard pictograms



Signal word

Warning

Hazard statements

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
P501 Dispose of contents/container to officially approved facility

2.3 Other hazards

None known.

SECTION 3. Composition/informations on ingredients

Chemical nature: Aqueous solution

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration):

Copper (II) sulfate pentahydrate (≥ 3% - < 4%)

CAS N°	EC N°	REACH N°	Classification
7758-99-8	281-847-6	01-2119520566-40-0000	Acute toxicity, Category 4, Oral, H302 Eye irritation, Category 2, H 319 Skin irritation, Category 2, H315 Chronic aquatic toxicity, category 1, H410

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For the full text of the H-Statements mentioned in this Section, see Section 16.

Component not classified as hazardous as a consequence of the substance concentration (Regulation (CE) N° 1272/2008)

Chemical Name (Concentration):

Sulphuric acid (< 0.2%)

CAS N°	EC N°	REACH N°	Classification
7664-93-9	231-639-5	01-2119457892-27-XXXX	Skin corrosion, Category 1A, H314 Corrosive to metals, Category 1, H290

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. In case of respiratory tract irritation, consult a physician.

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. In case of skin reaction, consult a physician.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: rinse out mouth with water. Do not induce vomiting. Do not give the casualty anything to eat or drink. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media

For this mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

In case of fire may be liberated: Pyrolysis products, toxic

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

See sections 7 and 8 for protective measures. Use personal protection equipment.

6.2 Environmental precautions

Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Take up with liquid-absorbent and neutralizing material (e.g. Trivorex® (PREVOR)). Clean contaminated objects and areas thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

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SECTION 7. Handling and storage

7.1 Precautions for safe handling

Observe label precautions.

Avoid: Inhalation. Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Storage temperature: +15°C to +25°C.

Keep container tightly closed in a cool, well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls / personal protection

8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Exposure controls

Engineering measures

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures

Eye/face protection

Eye glasses with side protection

Hand protection

Wear chemically protective gloves with the CE-label. In the case of wanting to use the gloves again, clean them before taking off and air them well

By short-term hand contact:

Glove material: Nitrile rubber

Glove thickness: 0.12 mm

Break through time: > 480 min.

By long-term hand contact

Glove material: Nitrile rubber

Glove thickness: 0.38 mm

Break through time: > 480 min.

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Other protective equipment

Wear appropriate chemically protective clothing, with the CE-labels

Respiratory protection

Respiratory protection: required when vapors/aerosols are generated.

Recommended filter type: P2.

The company has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

Do not empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form

liquid.

Color

turquoise blue.

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Odor	characteristic
Odor Threshold	No data available.
pH	No data available.
Melting point	No data available.
Boiling point/boiling range	> 100 °C
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	No data available.
Upper explosion limit	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	1.04 g/cm ³ at 20°C
Water solubility	soluble.
Partition coefficient: n- octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity, dynamic	No data available.
Explosive properties	Not classified as explosive.
Oxidizing properties	None

9.2 Other data

Bulk density	No data available
Refraction index	No data available
Dissociation constant	No data available
Surface tension	No data available
Henry constant	No data available.

SECTION 10. Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

The product is chemically stable for 2 years under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reaction

No data available

10.4 Conditions to avoid

Direct sunlight. Extreme low temperatures or extreme hot temperatures.

10.5 Incompatible materials

Strong acids, strong bases.

10.6 Hazardous decomposition products

Vapors, carbon monoxide, carbon dioxide.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

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<i>Acute oral toxicity</i>	
Effective dose - species - Exposure time	No data available.
<i>Acute dermal toxicity</i>	
Effective dose - species - Exposure time	No data available.
<i>Acute inhalation toxicity</i>	
Effective dose - species - Exposure time	No data available.
<i>Irritant and corrosive effects</i>	
<i>Primary irritation of the skin</i>	
Exposure time - species	No data available.
<i>Eye irritation</i>	
Exposure time - species	No data available.
<i>Sensitization</i>	
In case of skin contact	No data available.
After inhalation	No data available.
<i>Specific target organ toxicity</i> (single exposure)	Not relevant
<i>Specific target organ toxicity</i> (repeated exposure)	Not relevant
<i>CMR effects</i> (carcinogenicity, mutagenicity and toxicity for reproduction)	
<i>Carcinogenicity</i>	No data available.
<i>Germ cell mutagenicity/Genotoxicity</i>	No data available.
<i>Reproductive toxicity</i>	No data available.
<i>Aspiration hazard</i>	No data available.
11.2 Other adverse effects	No data available.
11.3 Additional information	No data available.

Components

Copper (II) sulfate pentahydrate (7758-99-8)

Acute oral toxicity

LDLO human: 1.088 mg/kg (RTECS)

LD50 rat: 960 mg/kg ((HSDB)

Symptoms: gastric pain, vomiting, diarrhea

Acute inhalation toxicity

Symptoms: may cause irritation of respiratory tract.

Acute dermal toxicity

LD50 rat: > 2.000 mg/kg (RTECS).

Skin irritation

Causes skin irritation.

Eye irritation

Risk of corneal clouding, conjunctivitis

Causes serious eye irritation.

Sensitization

No data available

Specific target organ toxicity (single exposure)

No data available.

Specific target organ toxicity (repeated exposure)

No data available.

Genotoxicity in vivo

Mutagenicity (mammal cell test): micronucleus

Result: negative (National Toxicology Program).

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative (Lit.).

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Aspiration hazards

No data available.

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Further information

After absorption: drop in blood pressure, tachycardia, collapse, acidosis.

Metal-fume fever after inhalation of large quantities.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Mixture

12.1 Ecotoxicity

Acute (short-term) fish toxicity

LC50 - EC50 - species - exposure time No data available.

Chronic (long-term) fish toxicity

LC50 - EC50 - species - exposure time No data available.

Acute (short-term) daphnia toxicity

LC50 - EC50 - species - exposure time No data available.

Chronic (long-term) daphnia toxicity

LC50 - EC50 - species - exposure time No data available.

Acute (short-term) algae toxicity

LC50 - EC50 - species - exposure time No data available.

Chronic (long-term) algae toxicity

LC50 - EC50 - species - exposure time No data available.

12.2 Persistence and degradability – Biodegradability No data available.

12.3 Bioaccumulative potential No data available.

12.4 Mobility in soil No data available.

12.5 Results of PBT and vPvB assessment No data available.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

Copper (II) sulfate pentahydrate (7758-99-8)

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): 0.11 mg/l, 96 h (anhydrous substance) (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates.

EC50 *Daphnia magna* (Water flea): 0,02 mg/l, 48 h (anhydrous substance) (ECOTOX Database)

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

No information available.

Addition/ ecological information

Fungicide

Further information on ecology

Do not allow to run into surface waters, wastewater, or soil.

SECTION 13. Disposal considerations

Waste treatment methods

Waste must be disposed of in accordance with the Directive on waste 2008/98/EC and with local and national regulations. Leave chemicals in original containers. No mixing with other waste. Treat uncleaned containers like the product itself.

SECTION 14. Transport information

Land transport (ADR/RID)

UN number 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(COPPER SULPHATE SOLUTION)

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Class 9
Packing group III
Hazard label 9 9E
Tunnel restriction code E

Air transport (IATA)

UN number 3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (COPPER SULPHATE SOLUTION)
Class 9 (9E)
Packing group III

Sea transport (IMDG)

UN number 3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (COPPER SULPHATE SOLUTION)
Class 9 (9E)
Packing group III
Marine pollution yes
EMS F-A S-F
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water hazard class (WKG): WKG 3 (very hazardous for water)
Occupational restriction Take note of Directive 94/33/EC on the protection of young people at work
Substances of very high concern (SVHC) This product does not contain substances of very high concern above the respective regulatory limit (> 0.1 % (w/w) Regulation (EC) No 1907/2006 (REACH), Article 57).

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other informations

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.