

Safety Data Sheet (SDS)

Section 1: Identification

Product identifier: Macro Fry's Reagent

Other name(s):

Item number(s): 133

Identified use: Metal testing reagent.

Details of the supplier of the safety data sheet:

ES Laboratory, LLC

2041 E. Gladstone St. Unit N Glendora, CA 91740 USA

Tel: 626-208-9011

Emergency telephone number:

CHEMTREC® 1-800-424-9300 (US & Canada Only)

Section 2: Hazard(s) Identification

Hazardous classification of the substance or mixture:

Hazard Class	Category code
Skin Corrosion	1B
Serious Eye Damage	1
Acute aquatic toxicity	1
Chronic aquatic toxicity	2
Specific Target Organ Toxicity – Single Exposure	3
Acute toxicity (oral)	4

Signal word: Danger

Pictogram:



Hazard statement(s):

- H314 Causes severe skin burns and eye damage.
H302 Harmful if swallowed.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.

Response statement(s):

- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391 Collect spillage.

Storage statement(s):

- P405 Store locked up.

Disposal statement(s):

- P501 Dispose of contents/container in accordance with local, regional, national, and international regulations.

Hazard(s) not otherwise classified: No information.

Label elements: See tables above

HMIS Ratings:

Health: 3
Flammability: 0
Reactivity: 0

NFPA Ratings:

Health: 3
Flammability: 0
Reactivity: 0
Special hazard: None

Section 3: Composition/Information on Ingredients

Component	CAS No.	Concentration (wt%)
Cupric chloride, dihydrate	10125-13-0	23-27%
Hydrochloric acid	7647-01-0	12-17%

Any concentration shown as a range is to protect the confidentiality or is due to batch variation. Only hazardous components are shown.

Section 4: First-Aid Measures

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical aid immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid immediately.

Skin contact: Wash the areas of contact with water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately.

Ingestion: Do not induce vomiting. Rinse mouth. Get medical aid immediately.

Most important symptoms and effects, both acute and delayed: No information.

Recommendation for immediate medical care and special treatment needed, when necessary: No information.

Section 5: Fire-Fighting Measures

Extinguishing media: Water, dry chemical, foam, or carbon dioxide.

Special hazards arising from the substance or mixture: In case of fire, the following can be released: acidic liquid and irritating fume.

Special protective equipment or precautions for firefighters: Wear full protective clothing and a self-contained respirator.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

Environmental precautions: Do not allow the material to be released to the environment without proper government permits.

Methods and materials for containment and cleaning up: Neutralize the spill with soda ash or lime. Absorb with a liquid binding material (sand, diatomite, acid binder, universal binders, sawdust). Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation.

Section 7: Handling and Storage

Precautions for safe handling: Keep the container tightly sealed. Store in a cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Open and handle container with care.

Condition for safe storage: Keep container tightly sealed. Store in an approved corrosive liquid storage container/area.

Incompatibilities: Store away from strong bases.

Specific storage requirement(s): No information.

Section 8: Exposure Controls/Personal Protection

Exposure Limits

Component	CAS No.	ACGIH TLV	OSHA PEL
Cupric chloride, dihydrate	10125-13-0	1 mg/m ³ TWA	1 mg/m ³ TWA

Hydrochloric acid	7647-01-0	C 2 ppm	C 5 ppm
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Engineering controls: Use general and/or local exhaust ventilation to control the vapor concentration.

Eye protection: Wear safety glasses or goggles.

Skin protection: Wear protective clothing and chemical-resistant gloves.

Respiratory protection: Use a self-contained respiratory device in an emergency situation.

Section 9: Physical and Chemical Properties

Appearance:	Dark green liquid
UFL/UEL:	Not determined
LFL/LEL:	Not determined
Odor:	Acidic, pungent
Vapor pressure:	Not determined
Odor threshold:	Not determined
Vapor density:	Not determined
pH:	< 1
Relative density:	Not determined
Melting Point/Freezing point:	Not determined
Solubility in water:	Miscible
Boiling point/boiling range:	Not determined
Flashpoint:	Not determined
Evaporation Rate:	Not determined
Flammability (solid, gas):	Not applicable
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined

Section 10: Stability and Reactivity

Reactivity: No information.

Chemical stability: Stable under recommended conditions.

Stabilizer(s): Not required.

Safety issues that may arise should the product change in appearance: No information.

Thermal decomposition/ conditions to avoid: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions: see incompatibilities.

Incompatibilities: Strong bases, react with metal powders and release hydrogen gas.

Hazardous decomposition products: hydrogen chloride gas and copper oxide, when heated to decomposition.

Section 11: Toxicological Information

For Hydrochloric acid:

Acute toxicity:

Oral rat LD50: 700 mg/kg.

Other exposure effect:

Inhalation: Strong corrosive effect.

On the Skin: Strong corrosive effect.

On the Eye: Strong corrosive effect.

Sensitization: No sensitizing effects are known.

Additional toxicological information: To the best of our knowledge, the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from NTP or OSHA. IARC-3 Not classifiable as to human carcinogenicity.

For Cupric chloride, dihydrate:

Acute toxicity:

Oral rat LD50: 290 mg/kg.

Dermal rat male LD50: >2000 mg/kg

Dermal rat female LD50: 1224 mg/kg

Other exposure effect:

Inhalation: No data.

On the Eye: Risk of serious damage

Sensitization: No data.

Additional toxicological information: To the best of our knowledge, the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from NTP, IARC, or OSHA.

Section 12: Ecological Information

Toxicity:

Aquatic toxicity: Cupric chloride is very toxic to aquatic organisms.

Persistence and degradability: Cupric chloride may cause long lasting harmful effects to aquatic life.

Behavior in environmental system:

Bioaccumulative potential: Cupric chloride is expected to significantly bioaccumulate.

Mobility in soil: No information.

Additional ecological information: Avoid transfer into the environment.

Other adverse effects: No information.

Section 13: Disposal Considerations

Place in a chemical waste container for proper disposal in an approved waste disposal facility. Dispose of the content and container in accordance with local, regional, national, and international regulations.

Section 14: Transport Information

D.O.T. shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (hydrochloric acid, copper(II) chloride)

D.O.T. hazard class: 8

UN number: UN3264

Packing group: II

Environmental hazards: Marine pollutant (copper(II) chloride)

Section 15: Regulatory Information

Not meant to be all inclusive, selected regulations represented

California proposition 65: Not listed

TSCA status: All components are listed.

Section 16: Other Information

Disclaimer: The information above is believed to be accurate and represents the best information currently available to us.

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