Safety Data Sheet

Cat. # 786-32CU

Reversible Copper Stain™

Size: 25 Mini Gels
# Cu Destaining Solution [10X]
Safety Data Sheet

Date of issue: 01/01/2017  
Revision date: 05/11/2017  
Version: 7.1

## SECTION 1: Identification

### 1.1. Identification
- **Product form**: Mixture
- **Product name**: Cu Destaining Solution [10X]
- **Product code**: 037D

### 1.2. Recommended use and restrictions on use
- **Use of the substance/mixture**: Electrophoresis

### 1.3. Supplier
Geno Technology, Inc./G-Biosciences  
9800 Page Avenue  
Saint Louis, 63132 - United States  
T 800-628-7730 - F 314-991-1504  
technical@GBiosciences.com - www.GBiosciences.com

### 1.4. Emergency telephone number
- **Emergency number**: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture
- **GHS US classification**
  - **Skin corrosion/irritation**: Category 1  
    H314 - Causes severe skin burns and eye damage  
  - **Full text of H statements**: see section 16

### 2.2. GHS Label elements, including precautionary statements
- **GHS US labeling**
  - **Signal word (GHS US)**: Danger
  - **Hazard pictograms (GHS US)**:

  ![Hazard Pictogram](image)

  - **Hazard statements (GHS US)**: H314 - Causes severe skin burns and eye damage
  - **Precautionary statements (GHS US)**:
    - P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
    - P264 - Wash hands, forearms and face thoroughly after handling.
    - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
    - P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
    - P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
    - P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
    - 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 or doctor
    - P321 - Specific treatment (see supplemental first aid instruction on this label)
    - P363 - Wash contaminated clothing before reuse.
    - P405 - Store locked up.
    - P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards which do not result in classification
- **No additional information available**

### 2.4. Unknown acute toxicity (GHS US)
- **Not applicable**

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances
- **Not applicable**

### 3.2. Mixtures
- **Not applicable**
### Cu Destaining Solution [10X]

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>edetic acid</td>
<td>(ethylenedinitrilo)tetraacetic acid / 3,6-bis(carboxymethyl)3,6-diazaocanledioic acid / 3,6-bis(carboxymethyl)edathamil / 3,6-diazaoctanediol acid, 3,6-bis(carboxymethyl)- / 3,6-diazaocanledioic acid / acetic acid, (ethylenedinitrilo)tetra / acetic acid, 2,2',2'',2'''- (1,2-ethanediyl)dinitrilo)tetraakis- / AI3-17181 / caswell No 438 / celon A / celon ATH / cheelox / cheelox BF acid / chemcolox 340 / chomat TAA / complexon II / complexone II / detauric acid / edahamul / edetic / edetic acid / edtic acid / EDTA / EDTA acid / EDTA, chelating agent / endrate / EPA pesticide chemical code 039101 / ethylene-bis(iminodiacetic acid) / ethylenediamine-N,N',N'-tetraacetic acid / ethylenediaminetetraacetic acid / ethylenedinitrilotetraacetic acid / gluma cleanser / glycine, N,N'-1,2-ethanediylbis(N-(carboxymethyl))- / harshene acid / havidote / ICRF185 / idranal II / metaquest A / methaquest A / N,N'-1,2-ethanediylbis(N-(carboxymethyl)glycine) / N,N'-1,2-ethanediylbis(N-carboxymethyl)glycine / NA9117 / nervanacid B acid / nullapon B acid / nullapon BF acid / perma kleer 50 acid / SEQ100 / sequestrene AA / sequestric acid / sequestrol / tetrine acid / triplex / tricon BW / trilon B(=EDTA) / trilon BS / trilon BW / universne acid / versene acid / versene(=EDTA) / vinkel 100 / warkeelate acid / YD30</td>
<td>(CAS-Nos.) 60-00-4</td>
<td>10 - 50</td>
<td>Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

### SECTION 4: First-aid statements

#### 4.1 Description of first aid measures

- **First-aid measures general**: Call a physician immediately.
- **First-aid measures after inhalation**: Remove person to fresh air and keep comfortable for breathing.
- **First-aid measures after skin contact**: Rinse skin with water/shower. Remove/ Take off immediately all contaminated clothing. Call a physician immediately.
- **First-aid measures after eye contact**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion: Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)


Symptoms/effects after skin contact: Burns.

Symptoms/effects after eye contact: Serious damage to eyes.

Symptoms/effects after ingestion: Burns.

Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Solid water jet ineffective as extinguishing medium.

5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD: Most organic solids may burn if strongly heated. INDIRECT FIRE HAZARD:

Explosion hazard: DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


Emergency procedures: Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection”.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.

Methods for cleaning up: Take up liquid spill into absorbent material.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.
Hygiene measures: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool.

Storage temperature: Ambient temperature

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.


Storage area: Store in a dry area. Keep container in a well-ventilated place. Unauthorized persons are not admitted. Meet the legal requirements. Store at ambient temperature.

Special rules on packaging: SPECIAL REQUIREMENTS: hermetical. watertight. corrosion-proof. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cu Destaining Solution [10X]
USA - ACGIH - Occupational Exposure Limits

ACGIH Ceiling (mg/m³) | 2 mg/m³
---|---
sodium hydroxide (1310-73-2)
USA - ACGIH - Occupational Exposure Limits

ACGIH Ceiling (mg/m³) | 2 mg/m³
---|---
edetic acid (60-00-4)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:
GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: natural rubber. neoprene. nitrile rubber. GIVE LESS RESISTANCE: butyl rubber. polyethylene. PVA. GIVE POOR RESISTANCE: natural fibres

Hand protection:
Gloves

Eye protection:
Safety glasses

Skin and body protection:
Corrosion-proof clothing. In case of dust production: head/neck protection

Respiratory protection:
Dust production: dust mask with filter type P3. Self-contained breathing apparatus if conc. in air > 2 mg/m³

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Appearance: Liquid.
Color: Clear
Odor: None
Odor threshold: No data available
pH: No data available
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition. Reacts on exposure to water (moisture) with (some) metals: release of highly flammable gases/vapours (hydrogen). Absorbs the atmospheric CO2. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk.

10.2. Chemical stability
Unstable on exposure to moisture. Unstable on exposure to air. Hygroscopic.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>4500 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>4500 mg/kg body weight</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Eye damage, category 1, implicit</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Burns.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Serious damage to eyes.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>Burns.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecology - general:** Before neutralisation, the product may represent a danger to aquatic organisms.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>LC50/EC50 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sodium hydroxide (1310-73-2)</strong></td>
<td></td>
</tr>
<tr>
<td>LC50 fish 1</td>
<td>45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution &gt;=50%)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td><strong>edetic acid (60-00-4)</strong></td>
<td></td>
</tr>
<tr>
<td>LC50 fish 1</td>
<td>159 mg/l (US EPA, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>140 mg/l (DIN 38412-11, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)</td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>&gt; 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, GLP)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sodium hydroxide (1310-73-2)</strong></td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td><strong>edetic acid (60-00-4)</strong></td>
<td>Not readily biodegradable in water.</td>
</tr>
<tr>
<td>Chemical oxygen demand (BOD)</td>
<td>0.01 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>0.85 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>1.09 g O₂/g substance</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.0091</td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sodium hydroxide (1310-73-2)</strong></td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td><strong>edetic acid (60-00-4)</strong></td>
<td>BCF fish 1 1.1 - 1.8 (28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Read-across, Fresh weight)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>0.13 (Weight of evidence approach)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil
SECTION 13: Disposal considerations

13.1. Disposal methods


Product/Packaging disposal recommendations: Dissolve or mix with a combustible solvent. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Additional information: LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information: No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Packing group (IMDG): II - substances presenting medium danger
EmS-No. (1): F-A
EmS-No. (2): S-B

Air transport

SECTION 15: Regulatory information

15.1. US Federal regulations

Sodium hydroxide (1310-73-2)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313
CERCLA RQ: 1000 lb

Edetic acid (60-00-4)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313
CERCLA RQ: 5000 lb

15.2. International regulations

Canada

EU Regulations

National regulations

No additional information available
### SECTION 16: Other information

<table>
<thead>
<tr>
<th>Full text of H-phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>H290 May be corrosive to metals</td>
</tr>
<tr>
<td>H314 Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H319 Causes serious eye irritation</td>
</tr>
<tr>
<td>H402 Harmful to aquatic life</td>
</tr>
</tbody>
</table>

**NFPA health hazard**: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

**NFPA fire hazard**: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

**NFPA reactivity**: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

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*SDS US (GHS HazCom 2012)*

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification

1.1. Identification

Product form: Mixture
Product name: 5 Minute Reversible Copper Stain [10X]
Product code: 272C

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4               H302 - Harmful if swallowed
Skin corrosion/irritation Category 2          H315 - Causes skin irritation
Serious eye damage/eye irritation Category 2  H319 - Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 3  H335 - May cause respiratory irritation
Hazardous to the aquatic environment - Acute Hazard Category 1  H400 - Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1  H410 - Very toxic to aquatic life with long lasting effects

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US): 

Signal word (GHS US): Warning

Hazard statements (GHS US): 

H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US): 

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see supplemental first aid instruction on this label)
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
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P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper(II) chloride,dihydrate</td>
<td>copper chloride (CuCl2), dihydrate / copper chloride (CuCl2.2H2O) / copper chloride,dihydrate / copper dichloride hydrate / copper dichloride,dihydrate / copper(2+) chloride,dihydrate / coppertrace / cupric chloride,dihydrate / cupricloride,dihydrate / diaquadichlorocopper / eriochalcite,natural / eriocholcite</td>
<td>(CAS-No.) 10125-13-0</td>
<td>50 - 80</td>
<td>Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general: Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion: Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects after inhalation: May cause respiratory irritation.
Symptoms/effects after skin contact: Irritation.
Symptoms/effects after eye contact: Eye irritation.


4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard: DIRECT FIRE HAZARD: Non combustible.
Explosion hazard: DIRECT EXPLOSION HAZARD: Not applicable. INDIRECT EXPLOSION HAZARD: Not applicable.
Reactivity in case of fire: Reacts on exposure to water (moisture) with (some) metals.
5 Minute Reversible Copper Stain [10X]
Safety Data Sheet

5.3. Special protective equipment and precautions for fire-fighters
Firefighting instructions: Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Collect spillage.
Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Storage temperature: Ambient temperature
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: water/moisture.
Storage area: Store in a dry area. Keep container in a well-ventilated place. May be stored under nitrogen. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. watertight. dry. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: iron. glass. stoneware/porcelain. steel with plastic inner lining. paper. wood. plastics.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
5 Minute Reversible Copper Stain [10X]
No additional information available
copper(II) chloride,dihydrate (10125-13-0)
No additional information available

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures / Personal protective equipment

Materials for protective clothing:
GIVE GOOD RESISTANCE: neoprene, butyl rubber, PVC

Hand protection:
Gloves

Eye protection:
Safety glasses

Skin and body protection:
Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:
Dust production: dust mask with filter type P2. High gas/vapour concentration: gas mask with filter type B

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Green</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

VOC content: Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts on exposure to water (moisture) with (some) metals. At very high temperature: decomposes: release of toxic and corrosive gases/vapours (chlorine, hydrogen chloride) and formation of metallic fumes.

10.2. Chemical stability
Hygroscopic.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.
10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ATE US (oral) 1000 mg/kg body weight

**copper(II) chloride, dihydrate (10125-13-0)**

ATE US (oral) 500 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : May cause respiratory irritation.

**copper(II) chloride, dihydrate (10125-13-0)**

Specific target organ toxicity – single exposure : May cause respiratory irritation.

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Eye irritation.


SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : Very toxic to aquatic life with long lasting effects.
Ecology - air : TA-Luft Klasse 5.2.2/III.

5 Minute Reversible Copper Stain [10X]

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Concentration (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>0.046 mg/l (96 h; Oncorhynchus kisutch; ANHYDROUS FORM)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>0.026 mg/l (48 h; Daphnia magna; ANHYDROUS FORM)</td>
</tr>
<tr>
<td>EC50 other aquatic organisms 1</td>
<td>&lt; 1 mg/l (72 h; Algae; COPPER ION)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>1 mg/l (96 h; Lepomis macrochirus; ANHYDROUS FORM)</td>
</tr>
</tbody>
</table>
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>5 Minute Reversible Copper Stain [10X]</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradability: not applicable. Biodegradability in soil: not applicable.</td>
</tr>
<tr>
<td><strong>Biochemical oxygen demand (BOD)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Chemical oxygen demand (COD)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>ThOD</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>BOD (% of ThOD)</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Copper(II) chloride, dihydrate (10125-13-0)**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradability in soil: not applicable. Biodegradability: not applicable.</td>
</tr>
<tr>
<td><strong>Chemical oxygen demand (COD)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>ThOD</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>BOD (% of ThOD)</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>5 Minute Reversible Copper Stain [10X]</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BCF fish 1</strong></td>
<td>290 (Pimephales promelas; COPPER ION)</td>
</tr>
<tr>
<td><strong>BCF other aquatic organisms 1</strong></td>
<td>17700 (Corbicula sp.; COPPER ION)</td>
</tr>
<tr>
<td><strong>BCF other aquatic organisms 2</strong></td>
<td>471 (148 h; Daphnia magna; ANHYDROUS FORM)</td>
</tr>
<tr>
<td><strong>Bioaccumulative potential</strong></td>
<td>Bioaccumable.</td>
</tr>
</tbody>
</table>

**Copper(II) chloride, dihydrate (10125-13-0)**

<table>
<thead>
<tr>
<th>5 Minute Reversible Copper Stain [10X]</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BCF fish 1</strong></td>
<td>290 (Pimephales promelas, Copper ion)</td>
</tr>
<tr>
<td><strong>BCF other aquatic organisms 1</strong></td>
<td>17700 (Corbicula sp., Copper ion)</td>
</tr>
<tr>
<td><strong>BCF other aquatic organisms 2</strong></td>
<td>471 (148 h, Daphnia magna, Anhydrous form)</td>
</tr>
<tr>
<td><strong>Bioaccumulative potential</strong></td>
<td>Bioaccumable.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- **Waste treatment methods**: Waste treatment methods.
- **Product/Packaging disposal recommendations**: Recycle/reuse. Precipitate/make insoluble. Remove to an authorized dump (Class I). Treat using the best available techniques before discharge into drains or the aquatic environment.
- **Additional information**: Hazardous waste according to Directive 2008/98/EC. Can be considered as non hazardous waste according to Directive 2008/98/EC.

### SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Not applicable

**Transportation of Dangerous Goods**

**Transport by sea**

- **Transport document description (IMDG)**: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, MARINE POLLUTANT
- **UN-No. (IMDG)**: 3082
- **Proper Shipping Name (IMDG)**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- **Class (IMDG)**: 9 - Miscellaneous dangerous substances and articles
- **Packing group (IMDG)**: III - substances presenting low danger
5 Minute Reversible Copper Stain [10X]

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Limited quantities (IMDG) : 5 L
Marine pollutant : Yes

Air transport

Transport document description (IATA) : UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III
UN-No. (IATA) : 3082
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

copper(II) chloride, dihydrate (10125-13-0)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.