

### Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 11/11/2022

Reviewed on 11/11/2022

## 1 Identification

- **Product identifier**
- **Trade name: CU 2 Porphyrin F10 / F25**
- **Catalogue number:** 00530241, 00530249, 530240, 00530681, 00530689, 530680
- **CAS Number:**  
7775-14-6
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**  
Tintometer Inc.  
6456 Parkland Drive  
Sarasota, FL 34243  
USA  
phone: (941) 756-6410  
fax: (941) 727-9654  
www.lovibond.us  
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Self-heating substances and mixtures 1 H251 Self-heating: may catch fire.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

- **Label elements**

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

sodium dithionite

methenamine

- **Hazard statements**

H251 Self-heating: may catch fire.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

- **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection.

P235+P410 Keep cool. Protect from sunlight.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P302+P352 If on skin: Wash with plenty of water.

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- **Other hazards** Contact with acids liberates toxic gas.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

CAS: 7775-14-6 sodium dithionite

- **EC number:** 231-890-0

- **Composition and Information on Ingredients:**

CAS: 7775-14-6 EINECS: 231-890-0 Index number: 016-028-00-1	sodium dithionite ⚠ Self-heating substances and mixtures 1, H251; ⚠ Acute Toxicity - Oral 4, H302	>70 - <90%
CAS: 497-19-8 EINECS: 207-838-8 Index number: 011-005-00-2	sodium carbonate ⚠ Eye Irritation 2A, H319	>1 - <10%
CAS: 100-97-0 EINECS: 202-905-8 Index number: 612-101-00-2 RTECS: MN 4725000	methenamine ⚠ Flammable Solids 2, H228; ⚠ Sensitization - Skin 1, H317	0.1- <1%

### 4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

If skin irritation or rash occurs: Get medical advice/attention.

Immediately rinse with plenty of water.

- **After eye contact:** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.

- **After swallowing:**

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

- **Most important symptoms and effects, both acute and delayed**

allergic reactions

irritations

after inhalation:

mucosal irritations, cough, breathing difficulty

after swallowing of large amounts:

sickness

vomiting

gastric or intestinal disorders

diarrhoea

pain

- **Danger:**

Sulfites are strong sensitizers

risk of skin sensitization

- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder.

- **For safety reasons unsuitable extinguishing agents:**

Water

--&gt; exothermic reaction.

If possible use dry extinguishing agents.

- **Special hazards arising from the substance or mixture**

Can burn in fire.

Risk of spontaneous combustion!

Formation of toxic gases is possible during heating or in case of fire.

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In case of fire, the following can be released:

Carbon dioxide (CO<sub>2</sub>)  
 Carbon monoxide (CO)  
 Sodium oxide  
 Sulfur oxides (SO<sub>x</sub>)

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

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## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

· **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid formation of dust.

· **Advice for emergency responders:**

Mount respiratory protective device.

Protective equipment: see section 8

· **Environmental precautions:** Do not allow product to reach sewage system or any water course.

· **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

· **Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## 7 Handling and storage

· **Precautions for safe handling**

· **Advice on safe handling:**

Prevent formation of dust.

Protect from heat.

Keep ignition sources away - Do not smoke.

· **Hygiene measures:**

Avoid contact with the eyes.

Avoid contact with the skin.

Take off immediately all contaminated clothing.

Wash hands before breaks and at the end of work.

Do not eat, drink or smoke when using this product.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

Protect from heat.

· **Information about storage in one common storage facility:**

Do not store together with acids.

see chapter 10

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Protect from exposure to the light.

Protect from humidity and water.

· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

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- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

<b>CAS: 100-97-0 methenamine</b>	
TLV (USA)	Long-term value: 1 mg/m <sup>3</sup> *inhalable fraction, A4, DSEN
EL (Canada)	S(D)
EV (Canada)	Short-term value: 2 mg/m <sup>3</sup> , 0.35 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**  
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.
- **Personal protective equipment:**  
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.
- **Recommended filter device for short term use:** Combination filter B-P2
- **Protection of hands:**  
Protective gloves  
Preventive skin protection by use of skin-protecting agents is recommended.  
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**  
Nitrile rubber, NBR  
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.  
Breakthrough time: > 480 min
- **Eye protection:**  
Safety glasses  
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**  
Avoid release to the environment.  
Do not allow product to reach sewage system or any water course.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**
- **Form / Physical state:** Powder
- **Color:** Whitish
- **Odor:** Pungent
- **Odor threshold:** Not determined.
- **pH-value (10 g/l) at 20°C (68°F):** ~3
- **Melting point/freezing point:** ~100°C (~212°F)
- **Initial boiling point and boiling range:** Prior to or during boiling decomposition occurs.
- **Flash point:** >100°C (>212°F) (DIN 51758; Merck)
- **Flammability (solid, gas):** The substance is capable of catching fire or being set on fire.
- **Ignition temperature:** Not applicable.
- **Decomposition temperature:** >80°C (>176°F)
- **Auto-ignition temperature:** Product is not self-igniting.
- **Danger of explosion:** As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.

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<b>· Flammability or explosive limits:</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not applicable (solid).
<b>· Oxidizing properties:</b>	
	none
<b>· Vapor Pressure:</b>	
	Not applicable (solid).
<b>· Density at 20°C (68°F):</b>	
	2.5 g/cm <sup>3</sup> (20.86 lbs/gal)
<b>· Relative density:</b>	
	Not determined.
<b>· Vapor density:</b>	
	Not applicable.
<b>· Evaporation rate:</b>	
	Not applicable.
<b>· Solubility(ies)</b>	
<b>· Water at 20°C (68°F):</b>	
	250 g/l
	Hydrolized.
<b>· Partition coefficient (n-octanol/water):</b> < -4.7 log POW	
<b>· Viscosity:</b>	
<b>· Kinematic:</b>	
	Not applicable (solid).
<b>· Other information</b>	
<b>· Solids content:</b>	100 %

## 10 Stability and reactivity

- **Reactivity**  
Forms explosive mixtures with air on intense heating.  
Risk of dust explosion if enriched with fine dust in the presence of air.
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**  
Reacts with water.  
Contact with acids releases toxic gases.  
Self igniting at raised temperature.  
Reacts with humid air.  
Reacts with oxidizing agents.
- **Conditions to avoid**  
Heating (decomposition)  
Exposure to moisture.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** see section 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Harmful if swallowed.

### · LD/LC50 values that are relevant for classification:

CAS: 7775-14-6 sodium dithionite		
Oral	LD50	500 mg/kg (ATE)
	LD50.	2500 mg/kg (rat) (IUCLID)
CAS: 497-19-8 sodium carbonate		
Oral	LD50	2800 mg/kg (rat) (Registrant, ECHA)
	LDLo	714 mg/kg (human) (RTECS)
Dermal	LD50.	>2000 mg/kg (rabbit) (US-EPA) (Registrant, ECHA: No deaths occurred at this concentration)
Inhalative	LC50	5750 mg/l/2h (rat) (OECD 403)
CAS: 100-97-0 methenamine		
Oral	LD50	9200 mg/kg (rat) (IUCLID)
Dermal	LD50.	>2000 mg/kg (rat) (OECD 402)

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- **Primary irritant effect:**

- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Information on components:**  
CAS 100970-97-0: chronic: dermatitis

<b>CAS: 7775-14-6 sodium dithionite</b>		
Irritation of skin	OECD 404	(rabbit: no irritation)
<b>CAS: 497-19-8 sodium carbonate</b>		
Irritation of skin	OECD 404	(rabbit: slight irritation)
Irritation of eyes	OECD 405	(rabbit: irritation) (US-EPA) (IUCLID)
<b>CAS: 100-97-0 methenamine</b>		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

- **Sensitization:** May cause an allergic skin reaction.

<b>Information on components:</b>		
<b>CAS: 100-97-0 methenamine</b>		
Sensitization	OECD 406	(guinea pig: positive)
	Patch test (human)	(positive) (IUCLID)

- **Carcinogenic categories**

<b>IARC (International Agency for Research on Cancer)</b>	
None of the ingredients is listed.	
<b>NTP (National Toxicology Program)</b>	
None of the ingredients is listed.	
<b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
None of the ingredients is listed.	

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Information on components:**

OECD 414: Teratogenicity testing  
 OECD 473: Mutagenicity testing  
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

<b>CAS: 497-19-8 sodium carbonate</b>	
OECD 471	(Bacterial Reverse Mutation Test - Ames test) negative / Escherichia coli
<b>CAS: 100-97-0 methenamine</b>	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (IUCLID)

- **Additional toxicological information:**

<b>CAS: 7775-14-6 sodium dithionite</b>	
(source: GESTIS)	
From general professional experience, an irritating effect on the mucous membranes is pointed out.	
An irritating effect on the eyes was demonstrated in several tests on the rabbit eye.	
Irrespective of the low general toxicity, however, it should be taken into account that released bisulfite/sulfite can trigger acute hypersensitivity reactions in sulfite-sensitive people (often asthmatics) (usually after oral or inhalative intake of small doses).	

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## 12 Ecological information

### · Toxicity

#### · Aquatic toxicity:

##### **CAS: 7775-14-6 sodium dithionite**

EC50	98 mg/l/48h (Daphnia magna) MERCK
IC50	206 mg/l/72h (Desmodemus subspicatus) MERCK
LC50	46–68 mg/l/96h (gold orfe) (DIN 38412) (Merck)

##### **CAS: 497-19-8 sodium carbonate**

EC50	220–227 mg/l/48h (Daphnia magna) (US-EPA) (Merck)
LC50	300 mg/l/96h (bluegill) (IUCLID) (Registrant, ECHA)

##### **CAS: 100-97-0 methenamine**

EC50	36 mg/l/48h (Daphnia magna) (IUCLID)
EC10	5 mg/l (fish)
LC50 (static)	41 mg/l/96h (bluegill) (US-EPA)

#### · Bacterial toxicity:

##### **CAS: 7775-14-6 sodium dithionite**

EC50	107 mg/l (Pseudomonas putida) IUCLID
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##### **CAS: 100-97-0 methenamine**

EC50 (static)	>5000 mg/l (Bacterial toxicity) (DIN 38412) (Merck, Vibrio fischeri)
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#### · Persistence and degradability

##### **CAS: 100-97-0 methenamine**

OECD 302 C	39–47 % / 28 d (not readily biodegradable) (Modified MITI Test (II))
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· **Other information:** Methods for the determination of biodegradability are not applicable to inorganic substances.

#### · Bioaccumulative potential

##### **CAS: 7775-14-6 sodium dithionite**

log Pow	<-4.7 (.) (calculated)
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##### **CAS: 100-97-0 methenamine**

log Pow	-2.84 (.) (experimental) (IUCLID)
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· **Mobility in soil** No further relevant information available.

#### · Other adverse effects

Reacts with water to form toxic decomposition products.  
Avoid transfer into the environment.

## 13 Disposal considerations

#### · Waste treatment methods

##### · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Hand over to hazardous waste disposers.

##### · Uncleaned packagings:

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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## 14 Transport information

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· DOT, IMDG, IATA</li> </ul>	UN1384
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· IMDG, IATA</li> </ul>	Sodium dithionite SODIUM DITHIONITE (SODIUM HYDROSULPHITE)
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· DOT</li> </ul>	<div style="text-align: center;">  <p>4</p> </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	4.2 Substances liable to spontaneous combustion 4.2
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	<div style="text-align: center;">  <p>4</p> </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	4.2 Substances liable to spontaneous combustion 4.2
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· DOT, IMDG, IATA</li> </ul>	II
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> </ul>	Warning: Substances liable to spontaneous combustion 40 F-A,S-J
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> <li>· DOT</li> <li>· Quantity limitations</li> </ul>	On passenger aircraft/rail: 15 On cargo aircraft only: 50
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	0 Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

## 15 Regulatory information

<ul style="list-style-type: none"> <li>· Safety, health and environmental regulations/legislation specific for the substance or mixture</li> <li>· Sara</li> </ul>	
<ul style="list-style-type: none"> <li>· Section 355 (Extremely hazardous substances):</li> </ul>	None of the ingredients is listed.
<ul style="list-style-type: none"> <li>· Section 313 (Specific toxic chemical listings):</li> </ul>	None of the ingredients is listed.
<ul style="list-style-type: none"> <li>· TSCA (Toxic Substances Control Act):</li> </ul>	All components have the value ACTIVE.
<ul style="list-style-type: none"> <li>· Hazardous Air Pollutants</li> </ul>	None of the ingredients is listed.

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## · Proposition 65

### · Chemicals known to cause cancer:

None of the ingredients is listed.

### · Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

### · Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

### · New Jersey Right-to-Know List:

CAS: 7775-14-6 | sodium dithionite

CAS: 100-97-0 | methenamine

### · New Jersey Special Hazardous Substance List:

R2

### · Pennsylvania Right-to-Know List:

CAS: 7775-14-6 | sodium dithionite

### · Pennsylvania Special Hazardous Substance List:

None of the ingredients is listed.

### · EPA (Environmental Protection Agency)

None of the ingredients is listed.

### · NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

### · Information about limitation of use:

Observe national regulations where applicable:  
Employment restrictions concerning young persons must be observed.

### · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

### · Relevant phrases

H228 Flammable solid.  
H251 Self-heating: may catch fire.  
H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

### · Date of preparation / last revision 11/11/2022

### · Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development  
STOT: specific target organ toxicity  
SE: single exposure  
RE: repeated exposure  
EC50: half maximal effective concentration  
IC50: half maximal inhibitory concentration  
NOEL or NOEC: No Observed Effect Level or Concentration  
ACGIH® - American Conference of Governmental Industrial Hygienists  
•A1 - Confirmed human carcinogen  
•A2 - Suspected human carcinogen  
•A3 - Confirmed animal carcinogen with unknown relevance to humans  
•A4 - Not classifiable as a human carcinogen  
•A5 - Not suspected as a human carcinogen  
IARC - International Agency for Research on Cancer  
•Group 1 - Carcinogenic to humans  
•Group 2A - Probably carcinogenic to humans  
•Group 2B - Possibly carcinogenic to humans  
•Group 3 - Not classifiable as to carcinogenicity to humans  
•Group 4 - Probably not carcinogenic to humans  
NTP - National Toxicology Program, U.S. Department of Health and Human Services  
•Group K - Known to be Human Carcinogens  
•Group R - Reasonably Anticipated to be Human Carcinogens  
IMDG: International Maritime Code for Dangerous Goods

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DOT: US Department of Transportation  
IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Flammable Solids 2: Flammable solids – Category 2  
Self-heating substances and mixtures 1: Self-heating substances and mixtures – Category 1  
Acute Toxicity - Oral 4: Acute toxicity – Category 4  
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A  
Sensitization - Skin 1: Skin sensitisation – Category 1

**Sources**

Data arise from safety data sheets, reference works and literature.  
GESTIS- Stoffdatenbank (Substance Database, Germany)  
IUCLID (International Uniform Chemical Information Database)  
RTECS (Registry of Toxic Effects of Chemical Substances)

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— US —