



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Version 1.2

Product name                      Copper Fine

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air.

#### *Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

#### *Eye contact*

After eye contact: rinse out with plenty of water.

#### *Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

### Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

### Indication of any immediate medical attention and special treatment needed

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

### Advice for firefighters

#### *Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

#### *Further information*

none

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

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**Environmental precautions**

No special precautionary measures necessary.

**Methods and materials for containment and cleaning up**

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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**SECTION 7. Handling and storage**

**Precautions for safe handling**

Observe label precautions.

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

Tightly closed. Dry.

Storage temperature: no restrictions.

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

*Ingredients*

Basis	Value	Threshold limits	Remarks
<i>General threshold limit value for dust</i>			
Z1A	Time Weighted Average (TWA):	5 mg/m <sup>3</sup>	Form of exposure: Respirable fraction.
	Time Weighted Average (TWA):	15 mg/m <sup>3</sup>	Form of exposure: Total dust.
	Time Weighted Average (TWA):	50millions of particles per cubic foot of air	Form of exposure: Total dust.
	Time Weighted Average (TWA):	15millions of particles per cubic foot of air	Form of exposure: Respirable fraction.
	Time Weighted Average (TWA):	15 mg/m <sup>3</sup>	Form of exposure: Total dust.
	Time Weighted Average (TWA):	5 mg/m <sup>3</sup>	Form of exposure: Respirable fraction.
OSHA_TRANS	PEL:	5 mg/m <sup>3</sup>	Form of exposure: Respirable fraction.
	PEL:	15 mg/m <sup>3</sup>	Form of exposure: Total dust.
ACGIH	Time Weighted Average (TWA):	10 mg/m <sup>3</sup>	Form of exposure: Inhalable particles.
	Time Weighted Average (TWA):	3 mg/m <sup>3</sup>	Form of exposure: Respirable particles.
<i>Diiron trioxide 1309-37-1</i>			
ACGIH	Time Weighted Average (TWA):	5 mg/m <sup>3</sup>	Form of exposure: Respirable fraction.
NIOSH/GUIDE	Recommended exposure limit (REL):	5 mg/m <sup>3</sup>	Form of exposure: Dust and fume. Expressed as: as Fe
OSHA_TRANS	PEL:	10 mg/m <sup>3</sup>	Form of exposure: Fume.
Z1A	Time Weighted Average (TWA):	10 mg/m <sup>3</sup>	Form of exposure: Fume.
<i>mica (muscovite) 12001-26-2</i>			
ACGIH	Time Weighted Average (TWA):	3 mg/m <sup>3</sup>	Form of exposure: Respirable fraction.
NIOSH/GUIDE	Recommended exposure limit (REL):	3 mg/m <sup>3</sup>	Form of exposure: Respirable.
Z1A	Time Weighted Average (TWA):	3 mg/m <sup>3</sup>	Form of exposure: Respirable dust.
	Time Weighted Average (TWA):	20millions of particles per cubic foot of air	

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

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**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

*Eye/face protection*

Safety glasses

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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**SECTION 9. Physical and chemical properties**

Physical state	powder
Color	red brown
Odor	odorless
Odor Threshold	Not applicable
pH	3.0 - 7.0 at 100 g/l 68 °F (20 °C) (slurry)
Melting point	No information available.
Boiling point/boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	Not applicable
Relative vapor density	Not applicable

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Product name	Copper Fine
Density	3.5 - 3.7 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) practically insoluble
Partition coefficient: n-octanol/water	Not applicable
Autoignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity, dynamic	Not applicable
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	290 - 320 kg/m <sup>3</sup>
Particle size	Particle size 5.0 - 25.0 µm  Mean particle size 7.0 - 14.0 µm

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

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

### Possibility of hazardous reactions

no information available

### Conditions to avoid

no information available

### Incompatible materials

no information available

### Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

*Likely route of exposure*

Inhalation, Eye contact, Skin contact, Ingestion

*Target Organs*

Eyes

Skin

Respiratory system

*Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

### Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### Further information

The results of animal experiments using pigments of this type indicate no toxicologically relevant properties. Since the substance is poorly absorbed, no hazardous properties are to be anticipated. Inhalation of the dusts should be avoided as even inert dusts may impair respiratory organ functions. The individual test results were as follows: skin tolerance (rabbit): no irritant effect; eye irritation test (rabbit): no irritant effect; sensitization test (guinea pig): no sensitizing potential. LD<sub>50</sub>(oral, rat): not determinable; all animals still alive after 15,000 mg/kg.

Subchronic toxicity (rat): no appreciable findings up to 50 000 ppm.

Chronic toxicity (rat): 5 % of the product added to the feed for a period of 2.5 years did not show any toxicological changes or carcinogenic effects in animals.

LC<sub>50</sub> (inhalational, rat): male animals: between 4.6 and 14.9 mg/l air; female animals: > 14.9 mg/l air.

The product did not show any genotoxic effects in the micronucleus test carried out in rats in concentrations of up to 2000 mg/kg (limit test).

Handle in accordance with good industrial hygiene and safety practice.

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**Ingredients**

*Diiron trioxide*

*Germ cell mutagenicity*

*Genotoxicity in vitro*

Ames test

Result: negative

(Lit.)

*mica (muscovite)*

No information available.

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**SECTION 12. Ecological information**

**Ecotoxicity**

No information available.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

*Partition coefficient: n-octanol/water*

Not applicable

**Mobility in soil**

No information available.

**Ingredients**

*Diiron trioxide*

No information available.

*mica (muscovite)*

No information available.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

Not classified as dangerous in the meaning of transport regulations.

**Air transport (IATA)**

Not classified as dangerous in the meaning of transport regulations.

**Sea transport (IMDG)**



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**SECTION 15. Regulatory information**

**United States of America**

**SARA 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**DEA List I**

Not listed

**DEA List II**

Not listed

**US State Regulations**

**Massachusetts Right To Know**

*Ingredients*

Diiron trioxide  
mica (muscovite)

**Pennsylvania Right To Know**

*Ingredients*

Diiron trioxide  
mica (muscovite)

**New Jersey Right To Know**

*Ingredients*

Diiron trioxide  
mica (muscovite)

**California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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## Notification status

TSCA:                                      All components of the product are listed in the TSCA-inventory.

DSL:                                         All components of this product are on the Canadian DSL.

KOREA:                                    Not in compliance with the inventory

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Labeling

#### *Precautionary Statements*

#### Prevention

P260 Do not breathe dust.

### 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](http://www.wikipedia.org).

Revision Date: 03/03/2015

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.