



# SAFETY DATA SHEET

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

Product name

**HILITE COPPER**

Version 1.1

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Exact percentages are being withheld as a trade secret.

*silicon dioxide (>= 10 % - < 30 % )*

7631-86-9

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.

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

Product name

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Version 1.1

**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.

**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.

**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>titanium(IV) oxide 13463-67-7</i>			
ACGIH	Time Weighted Average (TWA):	10 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	15 mg/m <sup>3</sup>	Form of exposure: Total dust.
Z1A	Time Weighted Average (TWA):	10 mg/m <sup>3</sup>	Form of exposure: Total dust.

*mica (muscovite) 12001-26-2*

# SAFETY DATA SHEET

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

Product name

**HILITE COPPER**

Version 1.1

---

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	
<i>silicon dioxide 7631-86-9</i>			
NIOSH/GUIDE	Recommended exposure limit (REL):	6 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	6 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	20millions of particles per cubic foot of air	
	Time Weighted Average (TWA):	0.8 mg/m <sup>3</sup>	The exposure limit is calculated from the equation, 80/(%SiO <sub>2</sub> ), using a value of 100% SiO <sub>2</sub> . Lower values of % SiO <sub>2</sub> will give higher exposure limits.

## Engineering measures

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

## 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	light yellow
Odor	odorless

**SAFETY DATA SHEET**

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Product name

**HILITE COPPER**

Version 1.1

---

Odor Threshold	Not applicable
pH	8.0 - 11.0 at 100 g/l 68 °F (20 °C) (slurry)
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	2.8 - 3.2 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	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	280 - 340 kg/m <sup>3</sup>

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**SECTION 10. Stability and reactivity****Reactivity**

See below

Product name **HILITE COPPER**

Version 1.1

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**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*

Respiratory system

Eyes

*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	Group 2B: Possibly carcinogenic to humans titanium(IV) oxide 13463-67-7
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**

# SAFETY DATA SHEET

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

Product name

**HILITE COPPER**

Version 1.1

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; subchronic toxicity (rat): no findings up to 20,000 ppm. LD<sub>50</sub> (oral, rat): not determinable; all animals still alive after 15,000 mg/kg.

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.

## Ingredients

### *titanium(IV) oxide*

#### *Acute oral toxicity*

LD50 Rat: > 10,000 mg/kg (External MSDS)

#### *Skin irritation*

Rabbit

Result: No skin irritation

(IUCLID)

#### *Eye irritation*

Rabbit

Result: No eye irritation

(IUCLID)

### *mica (muscovite)*

No information available.

### *silicon dioxide*

#### *Acute dermal toxicity*

Rabbit: > 5,000 mg/kg (IUCLID)

#### *Skin irritation*

Rabbit

Result: No irritation

OECD Test Guideline 404

#### *Eye irritation*

Rabbit

Result: No eye irritation

OECD Test Guideline 405

#### *Sensitization*

Sensitization test: Guinea pig

Result: negative

(IUCLID)

#### *Germ cell mutagenicity*

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

Product name

**HILITE COPPER**

Version 1.1

*Genotoxicity in vitro*

Ames test  
Salmonella typhimurium  
Result: negative  
(IUCLID)

Mutagenicity (mammal cell test): chromosome aberration.  
Result: negative  
(IUCLID)

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**SECTION 12. Ecological information**

**Ecotoxicity**

No information available.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

*Additional ecological information*

No ecological problems are to be expected when the product is handled and used with due care and attention.

**Ingredients**

*titanium(IV) oxide*

*Toxicity to fish*  
LC0 Leuciscus idus (Golden orfe): > 1,000 mg/l(External MSDS)

*Toxicity to bacteria*  
EC0 Pseudomonas fluorescens: > 5,000 mg/l(External MSDS)

*mica (muscovite)*

No information available.

*silicon dioxide*

*Toxicity to daphnia and other aquatic invertebrates*  
EC0 Daphnia magna (Water flea): >= 10,000 mg/l; 24 h  
OECD Test Guideline 202

*Toxicity to algae*  
IC50 Pseudokirchneriella subcapitata (green algae): 440 mg/l; 72 h (IUCLID)

NOEC Pseudokirchneriella subcapitata (green algae): 60 mg/l; 72 h (IUCLID)



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Product name

**HILITE COPPER**

Version 1.1

---

## 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)

Not classified as dangerous in the meaning of transport regulations.

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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*

titanium(IV) oxide

mica (muscovite)

silicon dioxide

#### Pennsylvania Right To Know

##### *Ingredients*

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---

titanium(IV) oxide  
mica (muscovite)  
silicon dioxide

**New Jersey Right To Know**

*Ingredients*

titanium(IV) oxide  
mica (muscovite)  
silicon dioxide

**California Prop 65 Components**

WARNING: this product contains a chemical known in the State of California to cause cancer.

*Ingredients*

titanium(IV) oxide

**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.