

**COPPER SULFATE FINE CRYSTAL**Version 1.0
SDS US GHSSDS Number: 2202027-0050-5-
000

Revision Date: 05/26/2015

SECTION 1. IDENTIFICATION

Product name : COPPER SULFATE FINE CRYSTAL

Product code : 2202027-0050-5-000

Manufacturer or supplier's details

Company name of supplier : Atotech Deutschland GmbH

Address : Erasmusstrasse 20
Berlin 10553
Germany

Telephone : +4930349850

Company name of supplier : Atotech USA

Address : 1750 OVERVIEW DRIVE
ROCK HILL, SC, USA 29730

Telephone : +18038173500

Prepared by
Product Safety Department (PSD): product-safety@atotech.comInquiries
Questions about content of Safety Data Sheets: product-safety@atotech.com

Emergency telephone : CHEMTREC +18004249300

Transport Medical : Rocky Mountain Poison Control Center: 303-623-5716

Recommended use of the chemical and restrictions on useRecommended use : Plating agents and metal surface treating agents
Surface treatment

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Oral) : Category 4

Skin irritation : Category 2

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Eye irritation : Category 2A

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.Precautionary Statements : **Prevention:**
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 Immediately call a POISON CENTER or doctor/ physician.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.**Other hazards**

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTSSubstance / Mixture : Substance
Chemical nature : Solid
Substance name : Copper (II) sulfate pentahydrate
CAS-No. : 7758-99-8**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration (%)
Copper (II) sulfate pentahydrate	7758-99-8	>= 80 - <= 100

This product may contain component (s) that are not listed under disclosure. All components not listed, do not contain hazardous materials above de minimus disclosure limits as defined by OSHA, NIOSH, ACGIH or Canadian WHMIS regulations and or guidelines. Please refer to other sections of the MSDS for information on safety, health and environmental guidelines and precautions.

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SECTION 4. FIRST AID MEASURES

- General advice : Get medical attention.
- If inhaled : Move to fresh air.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before re-use.
Get medical attention if irritation develops and persists.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : If swallowed, call a poison control center or doctor immediately.
Never give anything by mouth to an unconscious person.
Do not induce vomiting without medical advice.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- Notes to physician : No information available.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : No information available.
- Hazardous combustion products : Sulphur oxides
- Specific extinguishing methods : Use a water spray to cool fully closed containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
- Environmental precautions : Should not be released into the environment.
- Methods and materials for containment and cleaning up : Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Shovel or sweep up.
Keep in suitable, closed containers for disposal.
Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Handle in accordance with good industrial hygiene and safety practice.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid breathing dust.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
- Recommended storage temperature : -5 - 40 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Copper (II) sulfate pentahydrate	7758-99-8	TWA	1 mg/m ³ (Copper)	NIOSH REL

Personal protective equipment

- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
In case of insufficient ventilation, wear suitable respiratory equipment.

- Hand protection
Remarks : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective

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	gloves. Follow the instructions for use issued by the producer.
Eye protection	: Tightly fitting safety goggles Ensure that eyewash stations and safety showers are close to the workstation location.
Skin and body protection	: Impervious clothing Boots
Protective measures / Engineering measures	: Ensure adequate ventilation, especially in confined areas.
Hygiene measures	: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Avoid breathing dust.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: solid
Color	: light blue
Odor	: No information available.
Odor Threshold	: No data available
pH	: not determined
Melting point/freezing point	: not determined
Initial boiling point and boiling range	: not determined
Flash point	: does not flash
Evaporation rate	: Not applicable
Flammability (solid, gas)	: Not classified as a flammability hazard
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: not determined
Relative vapor density	: Not applicable
Density	: 2.24 - 2.34 g/cm ³
Solubility(ies) Water solubility	: partly miscible

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Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Oxidizing properties	: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: None under normal processing.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: Avoid dust formation. To avoid thermal decomposition, do not overheat.
Incompatible materials	: No data available
Hazardous decomposition products	: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**Eye contact
Skin Absorption**Acute toxicity**

Harmful if swallowed.

Product:

Acute oral toxicity	: Acute toxicity estimate : 505.05 mg/kg Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate : 2,022 mg/kg Method: Calculation method

Ingredients:**Copper (II) sulfate pentahydrate:**

Acute oral toxicity	: Acute toxicity estimate : 500 mg/kg
Acute dermal toxicity	: LD50 Dermal (Rabbit): 2,002 mg/kg

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Remark: The acute toxicity estimate (ATE) of the ingredients are derived using the LD50/LC50 values where available.

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks: Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

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.

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.

OSHA specified

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.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

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Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Ingredients:****Copper (II) sulfate pentahydrate:**Toxicity to daphnia and other aquatic invertebrates : EC50: 0.02 mg/l
Exposure time: 48 h**Persistence and degradability**

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

Product:

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**Waste from residues : Dispose of in accordance with local regulations.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION**International Regulation****UNRTDG**UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
Technical name(s) : (Copper (II) sulfate pentahydrate)
Class : 9
Packing group : III
Labels : 9

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IATA-DGR

UN/ID No. : UN 3077
 Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
 Technical name(s) : (Copper (II) sulfate pentahydrate)
 Class : 9
 Packing group : III
 Labels : Miscellaneous
 Packing instruction (cargo aircraft) : 956
 Packing instruction (passenger aircraft) : 956

IMDG-Code

UN number : UN 3077
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 Technical name(s) : (Copper (II) sulfate pentahydrate)
 Class : 9
 Packing group : III
 Labels : 9
 EmS Code : F-A, S-F
 Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**DOT / 49 CFR**

UN/ID/NA number : UN 3077
 Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
 Technical name(s) : (Copper (II) sulfate pentahydrate)
 Class : 9
 Packing group : III
 Labels : CLASS 9
 ERG Code : 171
 Marine pollutant : yes (Copper (II) sulfate pentahydrate)

SECTION 15. REGULATORY INFORMATION

TSCA 5a : Not relevant

TSCA_12b : Not relevant

DEA : Not applicable

EPCRA - Emergency Planning and Community Right-to-Know**CERCLA Reportable Quantity**

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Copper (II) sulfate pentahydrate	7758-99-8	10	10

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SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Copper (II) sulfate pentahydrate 7758-99-8

Massachusetts Right To Know

Copper (II) sulfate pentahydrate 7758-99-8 80 - 100 %

Pennsylvania Right To Know

Copper (II) sulfate pentahydrate 7758-99-8 80 - 100 %

New Jersey Right To Know

Copper (II) sulfate pentahydrate 7758-99-8 80 - 100 %

California Prop 65

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

Remarks: Components which are only displayed in Section 15 are being reported for local regulatory purposes. These components are not displayed in Section 3 due to one or more of the following conditions being met: being present in the product at concentration(s) below threshold limit values for reporting, not considered hazardous materials, health hazards or because they do not contribute to the overall GHS Classification of the final product as required by OSHA HazCom 2012 final rule (29 CFR 1910.1200).

Substances currently restricted by WEEE/RoHS (European Directive 2002/96/EC , 2002/95/EC) or ELV (European Directive 2000/53/EC):

PBDE	PBB	CrVI	Hg	Pb	Cd
-	-	-	-	-	-

Please note: Current legislation restricting the use of certain substances applies to „homogeneous material“ in finished articles being supplied to the market. Substances deposited during surface finishing may have a composition (weight percent) higher than the weight percent of the substance in the operating solution from which the deposit is made. Atotech encourages its customers to implement systems to ensure their finished products comply with the regulations in force.

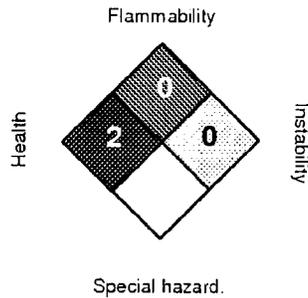
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

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The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.