



# SAFETY DATA SHEET

Creation Date 24-Nov-2010

Revision Date 12-Jan-2017

Revision Number 7

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identification

Product Description:	<b>Copper(I) chloride</b>
Cat No. :	<b>405870000; 405871000; 405875000; 405870025</b>
Synonyms	Cuprous chloride
CAS-No	7758-89-6
EC-No.	231-842-9
Molecular Formula	Cl Cu
Reach Registration Number	-

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

### 1.3. Details of the supplier of the safety data sheet

Company	Acros Organics BVBA Janssen Pharmaceuticaalaa 3a 2440 Geel, Belgium
E-mail address	begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Acute oral toxicity	Category 4 (H302)
Acute dermal toxicity	Category 4 (H312)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 1 (H318)

##### Environmental hazards

Acute aquatic toxicity	Category 1 (H400)
Chronic aquatic toxicity	Category 1 (H410)

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## 2.2. Label elements



Signal Word

Danger

### Hazard Statements

- H302 - Harmful if swallowed
- H312 - Harmful in contact with skin
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H410 - Very toxic to aquatic life with long lasting effects

### Precautionary Statements

- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P332 + P313 - If skin irritation occurs: Get medical advice/ attention
- 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/ physician
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

## 2.3. Other hazards

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Copper(I) chloride	7758-89-6	EEC No. 231-842-9	>95	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Reach Registration Number

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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Obtain medical attention.

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<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Protection of First-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

## **4.2. Most important symptoms and effects, both acute and delayed**

Causes severe eye damage.

## **4.3. Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

#### **Suitable Extinguishing Media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### **5.2. Special hazards arising from the substance or mixture**

Non-combustible. Do not allow run-off from fire fighting to enter drains or water courses.

#### **Hazardous Combustion Products**

Hydrogen chloride gas.

### **5.3. Advice for firefighters**

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**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### **6.3. Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

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## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Handle under nitrogen, protect from moisture.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. To maintain product quality: Keep under nitrogen.

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s):

Component	Italy	Germany	Portugal	The Netherlands	Finland
Copper(I) chloride		TWA: 0.01 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 0.02 mg/m <sup>3</sup>			TWA: 1 mg/m <sup>3</sup> 8 tunteina

Component	Austria	Denmark	Switzerland	Poland	Norway
Copper(I) chloride	MAK-KZW: 4 mg/m <sup>3</sup> 15 Minuten MAK-KZW: 0.4 mg/m <sup>3</sup> 15 Minuten MAK-TMW: 1 mg/m <sup>3</sup> 8 Stunden MAK-TMW: 0.1 mg/m <sup>3</sup> 8 Stunden		STEL: 0.2 mg/m <sup>3</sup> 15 Minuten TWA: 0.1 mg/m <sup>3</sup> 8 Stunden		

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Copper(I) chloride	TWA: 0.5 mg/m <sup>3</sup> 1203 STEL: 1.5 mg/m <sup>3</sup> 1203				

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

#### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**Derived No Effect Level (DNEL)** No information available

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Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.  
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)  
**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments (minimum requirement)
Natural rubber	See manufacturers	-	EN 374	
Nitrile rubber	recommendations			
Neoprene				
PVC				

**Skin and body protection** Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

### Small scale/Laboratory use

**Recommended Filter type:** Particulates filter conforming to EN 143  
Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001  
When RPE is used a face piece Fit Test should be conducted

### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

**Appearance** Grey  
**Physical State** Powder Solid

**Odor** Odorless  
**Odor Threshold** No data available  
**pH** 5 @ 20°C 50 g/l aq. sol  
**Melting Point/Range** 430 °C / 806 °F  
**Softening Point** No data available

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<b>Boiling Point/Range</b>	1490 °C / 2714 °F	@ 760 mmHg
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	4.140	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	Insoluble	practically insoluble
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	Not applicable	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

## 9.2. Other information

<b>Molecular Formula</b>	Cl Cu
<b>Molecular Weight</b>	99

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Moisture sensitive.

### 10.3. Possibility of hazardous reactions

<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

### 10.4. Conditions to avoid

Incompatible products. Exposure to moist air or water.

### 10.5. Incompatible materials

Metals. Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Hydrogen chloride gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

#### (a) acute toxicity;

<b>Oral</b>	Category 4
<b>Dermal</b>	Category 4
<b>Inhalation</b>	Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Copper(I) chloride	336 mg/kg (Rat)	1224 mg/kg (female Rat)	

(b) skin corrosion/irritation; Category 2

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- (c) serious eye damage/irritation; Category 1
- (d) respiratory or skin sensitization;  
Respiratory Based on available data, the classification criteria are not met  
Skin Based on available data, the classification criteria are not met
- (e) germ cell mutagenicity; Based on available data, the classification criteria are not met
- (f) carcinogenicity; Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product
- (g) reproductive toxicity; Based on available data, the classification criteria are not met
- (h) STOT-single exposure; Based on available data, the classification criteria are not met
- (i) STOT-repeated exposure; Based on available data, the classification criteria are not met  
Target Organs None known.
- (j) aspiration hazard; Not applicable  
Solid

Symptoms / effects, both acute and delayed No information available

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Copper(I) chloride	LC50: 0.559 mg/L/96h			

### 12.2. Persistence and degradability

#### Persistence

Insoluble in water.

#### Degradability

Not relevant for inorganic substances.

#### Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### 12.3. Bioaccumulative potential

May have some potential to bioaccumulate

### 12.4. Mobility in soil

Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility.

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

#### Persistent Organic Pollutant

This product does not contain any known or suspected substance

#### Ozone Depletion Potential

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Waste from Residues / Unused

Should not be released into the environment. Waste is classified as hazardous. Dispose of

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<b>Products</b>	in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>European Waste Catalogue (EWC)</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
<b>Other Information</b>	Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

<b>14.1. UN number</b>	UN2802
<b>14.2. UN proper shipping name</b>	COPPER CHLORIDE
<b>14.3. Transport hazard class(es)</b>	8
<b>Subsidiary Hazard Class</b>	P
<b>14.4. Packing group</b>	III

### ADR

<b>14.1. UN number</b>	UN2802
<b>14.2. UN proper shipping name</b>	COPPER CHLORIDE
<b>14.3. Transport hazard class(es)</b>	8
<b>14.4. Packing group</b>	III

### IATA

<b>14.1. UN number</b>	UN2802
<b>14.2. UN proper shipping name</b>	COPPER CHLORIDE
<b>14.3. Transport hazard class(es)</b>	8
<b>14.4. Packing group</b>	III

<b>14.5. Environmental hazards</b>	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
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<b>14.6. Special precautions for user</b>	No special precautions required
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<b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable, packaged goods
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## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Copper(I) chloride	231-842-9	-		X	X	-	X	X	X	X	X

#### National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Copper(I) chloride	WGK 2 WGK 3	

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.  
Take note of Dir 94/33/EC on the protection of young people at work



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Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed  
H312 - Harmful in contact with skin  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

First aid for chemical exposure, including the use of eye wash and safety showers.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

Chemical incident response training.

**Creation Date** 24-Nov-2010

**Revision Date** 12-Jan-2017

**Revision Summary** Update to Format.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

### Disclaimer

The information provided in this 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

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**End of Safety Data Sheet**