



INGENIERÍA INDUSTRIAL S.A DE C.V



## MATERIAL SAFETY DATA SHEET SUPER MATERCOP 21SL

Code:	PT033F
Issue date:	November/2016
Revision:	November/2017
Pages:	1/6.

### 1. Product and Company Identification

SGA Product ID:	Super Mastercop 21.36 SL
Chemical family:	Copper salts 260 SC
Active Ingredient:	Copper sulfate pentahydrate (a.i. Copper Sulfate pentahydrate 21.36 % w/w).
Formula	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
Recommended use of the chemical product and restrictions on use.	Agricultural fungicide and bactericide.
Contact information	Ingeniería Industrial S.A. de C.V. Carretera a Tecualtitan Km 0.676 Col. San Miguel Zapotitlán Poncitlán, Jalisco CP 45977 México <a href="http://www.adama.com/mexico/es">www.adama.com/mexico/es</a> Phone: 55248369
Emergency phone number:	In case of poisoning please call to Toxicological Information Center (TOXIC). Phone.: 5598-6659, 5611-2634, Toll free: 01 800 00 928 00. Orientation 24 hrs, 365 days yearly. In case of transportation accident: Phone (55) 51132606, Fax. 5113 2630.

### 2. Hazard Identification

Main risks.	<ul style="list-style-type: none"><li>• Harmful if swallowed.</li><li>• Causes eye irritation.</li><li>• Causes skin irritation.</li><li>• Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.</li></ul>	
Signaling elements:	 Attention	 Dangerous to the environment

### 3. Composition/Information on Ingredients.

Ingredients	CAS	ONU	EC (EINECS)	Concentration (% m/m)
Copper sulfate pentahydrate	7758-99-8	3082	231-847-6	20-24
Impurities and / or stabilizing additives				78.64

The unidentified inert ingredients belong to commercial information that it is considered confidential secret.

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### 4. First Aid Measures

**Eye Contact:** may cause irritation with symptoms of redness, swelling, itching, tearing and pain. If there were splashes into the eyes, flush with water for at least 15 minutes to get specialized medical care.

**Skin contact:** may cause irritation with symptoms of redness, swelling, itching and pain. Remove contaminated clothing; wash the affected area immediately with soap and water. Consult a physician.

**Ingestion:** Ingestion may cause gastroenteritis (inflammation of the lining of the stomach and intestines) with abdominal pain, nausea, vomiting and diarrhea. Systematic effects may also occur as a ringing in the ears, dizziness, high blood pressure, blurred vision and tremors. If swallowed give patient drink plenty of water (200-400 ml), immediately consult a doctor.

**Inhalation:** May irritate the respiratory tract. Symptoms may include coughing, shortness of breath, sore throat and runny nose. If inhaled or absorbed sufficient quantities, the symptoms may resemble those presented by acute ingestion. Remove the victim from the source of pollution and place in a cool, shaded and well ventilated. Get medical attention immediately and show the container (label) of the product to medical personnel attending the emergency.

### 5. Fire Fighting Measures

In case of fire use water spray, dry chemical, CO2 or foam.

Can produce toxic fumes and gases, oxides of copper and sulfur dioxide.

Appropriate protective equipment for firefighting personnel includes pants, jacket, boots, gloves, helmet and eye protection, and face, plus a team of positive pressure breathing apparatus (SCBA ). The firefighter protective equipment only has protection for firefighting operations and not for care of leaks or spills, for these cases should use insulation protection equipment appropriate to the operation. The fire should be attacked downwind to prevent toxic smoke from a safe distance so firefighters avoid the danger of exploding containers. Evacuate personnel and keep unauthorized persons away in the fire. During combat should try to minimize contact with the materials.

### 6. Accidental Release Measures.

Cordon off the affected area and deny access to people that have nothing to do with the work of gathering the spill, children and animals.

Avoid contamination of water bodies including public drainage.

Eye Protection: Use splash goggles.

skin and body protection: Wear Tyvek coverall with hood. Nitrile gloves, waterproof boots. Once the cleaning, Personal Protective Equipment must be decontaminated reusable in the same place, which is not reusable shall be handled as hazardous waste disposed according to local legislation.

Breathing Protection: Use half-face respirator with dust cartridges approved by NIOSH/MSHA respirators Disposable Never use this type of operation. When you have to answer a leak or spill situation, you should first identify the product using the packaging labels and caution. Remove all possible sources of ignition.



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### Isolation and Cleaning Methods and Materials:

The area of the incident should be bounded by physical barriers people step outside the emergency care. To fully recover the material must absorb with sand or other inert non-combustible and putting it in plastic bags and heavy gauge then place in a closed container and identified. Before you can begin identifying and cleaning operations, always wear personal protective equipment as indicated in Section 6. a. All workers involved in cleanup operations should be well informed about the potential risks of first aid procedures in case of contact with pesticides or contaminated material and symptoms of intoxication. Product materials spill or leak must be arranged in accordance with current legislation on Environmental.

## 7. Handling and Storage

### Precaution and conditions for a safety handling.

All chemicals are considered dangerous, so you should always use personal protective equipment. Store in a cool, dry, well ventilated and preferably in those dedicated to pesticides away from food, clothes, feeds, and out of reach of children and animals. Only persons aged 18 years and training may handle the product. Pregnant or nursing women should not handle any pesticide, exposed. After working hours, staff must bathe. If you wear work clothes home this should be washed separately to avoid cross contamination. Do not eat, drink or smoke in work areas, Wash hands before and after using the toilet. Do not transport with food, clothing or roughage.

## 8. Exposure controls / Personal Protection

### Exposure Limit.

Copper, smoke (as Cu \*): LPMT / TWA: 0.2 mg/m<sup>3</sup>. LMPECT or Peak: 2 mg/m<sup>3</sup>.  
Copper dust and mist (as Cu \*): LPMT / TWA: 1 mg/m<sup>3</sup>. LMPECT or Peak: 2 mg/m<sup>3</sup>.  
Exposure Limits: OSHA PEL 1 mg/m<sup>3</sup>. As copper.  
\* CAS 7440-50-8, EINECS: 231-159-6.

### Engineering Controls:

Good ventilation should be provided within the pesticide store.  
When transportation is in dry box, ventilate at least 15 minutes before starting the download of the unit.

### Appropriate Personal Protective Equipment. (PPE).

Use nitrile or neoprene gloves do not use bait when materials are out of its packaging.  
Use splash goggles  
Use impervious apron, do not use for bait or fabric.  
In routine activities, wear safety shoes. In the case of spillage collection, use rubber boots  
Use half-face respirator with dust.



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### 9. Physical and Chemical Properties

Appearance.	Dark green liquid.
Odor.	Characteristic
Odor threshold.	NA.
pH.	4.5 – 5.5.
Melting point / freezing point .	NA.
Boiling Point.	93-97
Flash Point.	>95.
Evaporation rate.	NA.
Flammability or exposure limit.	Upper Limit: NA. Lower Limit: NA.
Bulk density	1.20-1.24 g/cm <sup>3</sup> .
Solubility in water	NA
Autoignition temperature	Non flammable
Molecular weight.	249.54

### 10. Stability and Reactivity:

#### Chemical stability:

Stable under normal conditions of use and storage. Keep the products in a cool, dry, well ventilated place away protected from the sunlight.

#### Instability Conditions:

Avoid heat and air currents

#### Incompatibility:

Reducing agents, hydroxylamine, water, magnesium metal powders.

Not compatible with Fenvalerate, Fosetil-Al, Parathion, Chlorpyrifos and Dicloran.

#### Dangerous decomposition products.

CuO<sub>x</sub>, SO<sub>x</sub>

#### Descompocision Temperature

Above 140 ° C (284 ° F)

### 11. Toxicological Information

**Routes of Entry:** Eye contact, skin contact, Inhalation, Ingestion.

**DL<sub>50</sub> Oral** 1030 mg/kg (rat)

**DL<sub>50</sub> Dermal** > 5050 mg/kg (rat)

**CL<sub>50</sub> Inhalation:** > 2.31 mg/L (rat)

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### 12. Ecological Informationc

#### Eco-toxicity:

Effects on birds: copper sulfate is practically nontoxic to birds (quail) LD50 = 1551.96 mg/kgL

Effects on aquatic organisms: Highly toxic to fish. CL50/96h = 13.73 mg / L. May cause long-term adverse effects in the aquatic environment.

DAPHNIA: CE50/48h = 0.54 mg / l

Green Algae: CE50/48h = 12.16 mg / l

Bees: LD50> 100 µg/bee

Worms: CL50/14 days> 1000 mg / L

#### Products of biodegradation:

Shortly persistent.

#### Mobility on the environment:

The degree of mobility of copper in the environment depends on the pH of both soil and water. Increasing acidity is more soluble copper salt and greater mobility. Copper partition in the air by the bullet is negligible vapor pressure of this salt.

### 13. Disposal Considerations

All waste materials and hazardous waste must be handled with due care to avoid direct contact, for which we recommend the use of personal protective equipment as indicated in Section 8. Exposure controls / personal protection.

Verify that the container is completely empty, and then washed three times before disposing of them and not leave them outdoors. Take them to a collection center authorized by the environmental

Do not reuse containers that contained pesticides, destroy them.

Waste should be stored in suitable containers for disposal in accordance with current legislation on Environmental.

### 14. Transport Information

UN Number	3082
Proper shipping name	Environmentally Hazardous substance, liquid, N.O.S ( Copper sulfate pentahydrate )
Hazard Class/Division	9
Packing Group	III
Marine Pollutante	Yes
<b>Additional information:</b>	

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Additional information: Do not transport with food or fodder clothes, make sure the vehicle is covered to prevent contact with rain. Make sure the product is transported in units authorized to transport hazardous materials dry box. Place appropriate warning signs in the respective place. The operator of the transport unit must be capable of handling and transportation of hazardous materials and make sure to get all the documentation required to transport.

### 15. Regulatory Information

Biocide Products Directive (Directive 98/8/CE) Information: Not available for this substance.

Export and import of chemical hazards (Regulation (CE) No. 689/2008) Information: Not available for this substance

Priority List and European Risk Assessment (Regulatory Board (CEE) No. 793/93) Information: Not available for this substance

UNEP\* Persistent Organic Pollutants (COP) Pesticides: Not listed.

UNEP\* Consent (CFP) Pesticides; Not listed.

The World Health Organization (OMS) Obsolete pesticides: Not listed.

### 16. Other Information

Dangerous regulation for ground transport of hazardous material and wastes. (SCT, in Mexico).

DOT: non corrosive under DOT standards IAW 49 CFR 172 & 173 Non Flammable – Noncombustible.

European agreement on the international transport of dangerous goods by highway (ADR). United Nations, 2009.

NOM-002-SCT/2003, More usually transported listing of substances and dangerous goods. 031203

NOM.003-SCT/2008, Characteristics of the labels packages and packing destined to the transport of substances, hazardous materials and wastes. 150808

NOM-004SCT/2008, Dangerous Systems of identification of units destined to the substance transport, materials and wastes 180808.

NOM-010-STPS-1999. Conditions of security and hygiene in the work centers where they are handled, transport, process or store chemical substances able to generate contamination in the labor environment.

General law for the prevention and integral management of wastes.

NOM-018-STPS-2015. Harmonized system for the identification and communication of hazards and risks by hazardous chemicals in workplaces. General Law for the Prevention and Integral Management of Waste.

General Law for the Prevention and Integral Management of Waste. Not considered hazardous to OSHA.

Comply with DOT provisions.

Not consider dangerous for OSHA

If applicable, comply with DOT regulations



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### List of Acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.

IATA: International Air Transport Association

RID: Regulation on the International Carriage of Dangerous Goods by Rail

ICAO-TI: Technical Instructions for the Safety of Air Transport of Dangerous Goods

IMDG: International Maritime Code for the transport of dangerous goods

PBT: Persistent, bio accumulative and toxic substance.