

SECTION 1: Identification of the substance/mixture and of the company/undertaking

**1.1 Product Identifier** Solar Cu

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

Relevant uses: Fertiliser. For professional use only.  
Uses advised against: All uses not specified in this section or in section 7.3

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

Company: Indigrow Ltd, The Old Bakery, Hyde End Lane, Brimpton, Berkshire, RG7 4RH. UK.  
Phone: +44 (0) 1189 710 995  
Email: growth@indigrow.com

**1.4. Emergency telephone number** +44 (0) 7725 962 366

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SECTION 2: Hazards Identification

**2.1. Classification of the substance or mixture**

Directive 67/548/EC and Directive 1999/45/EC:

This product was classified in accordance with Directive 67/548/EC and Directive 1999/45/EC, adapting the requirements to Regulation (EC) n°1907/2006 (REACH regulation).

N: R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Xn: R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

CLP Regulation (EC) n° 1272/2008:

Classification of this product has been carried out in accordance with CLP Regulation (EC) n° 1272/2008.

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2

STOT RE 2: Specific target organ toxicity, repeated exposure, Category 2

**2.2. Label elements**

CLP Regulation (EC) n° 1272/2008:

Warning



Hazard statements: Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements: P260: Do not breathe dust/fume/gas/mist/vapours/spray  
P273: Avoid release to the environment  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P314: Get medical advice/attention if you feel unwell  
P391: Collect spillage  
P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment

Supplementary information: Non-applicable

Substances that contribute to the classification: Copper Sulphate



**2.3. Other hazards**

Non-applicable

## SECTION 3: Composition/Information on Ingredients

Chemical description: Miscellaneous products

Components: In accordance with Annex II of Regulation (EC) n°1907/2006 (point 3), the product contains:

Identification	Chemical Name/Classification		Concentration
CAS: 7758-98-7 EC: 231-847-6 Index: 029-004-00-0 REACH: 01-2119520566-40	Copper Sulphate (ATP CLP00)		3-<8%
	Directive 67/548/EC	N: R51/53; Xn: R48/20/22 	
	Regulation 1272/2008	Aquatic Chronic 2: H411; STOT RE 2: H373 - Warning 	

To obtain more information on the risk of the substances consult sections 8, 11, 12 and 16.

## SECTION 4: First-Aid Measures

### 4.1. Description of first aid measures

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the MSDS of this product.

- By inhalation: Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.
- By skin contact: Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.
- By eye contact: This product does not contain substances classified as dangerous for eye contact. Rinse eyes thoroughly for at least 15 minutes with luke warm water, ensuring that the person affected does not rub or close their eyes.
- By consumption: In case of consumption, seek immediate medical assistance showing the MSDS of this product.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing media

Product is non-flammable under normal conditions of storage, manipulation and use. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

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

As a result of combustion or thermal decomposition reactive subproducts are created that can become highly toxic and, consequently, can present a serious health risk.

### 5.3. Advice for fire-fighters

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit, ...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

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SECTION 6: Accidental Release Measures

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

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

**6.2. Environmental precautions**

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

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

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

**6.4. Reference to other sections**

See sections 8 and 13.

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SECTION 7: Handling and Storage

**7.1. Precautions for safe handling**

Precautions for safe manipulation:

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

Technical recommendations for the prevention of fires and explosions:

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

Technical recommendations to prevent ergonomic and toxicological risks:

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

Technical recommendations to prevent environmental risks:

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

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

Technical measures for storage:    Minimum Temp: 0°C  
   Maximum Temp: 40°C  
   Maximum Time: 36 Months

General conditions for storage:    Avoid sources of heat, radiation, static electricity and contact with food.

### 7.3. Specific end use(s)

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1. Control parameters

Substances whose occupational exposure limits have to be monitored in the work environment:  
There are no environmental limits for the substances contained in the product

DNEL (Workers):

Identification		Short Exposure		Long Exposure	
		Systemic	Local	Systemic	Local
Copper Sulphate CAS: 7758-98-7 EC: 231-847-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	0.00414 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0.2 mg/m <sup>3</sup>	Non-applicable

DNEL (Population):

Identification		Short Exposure		Long Exposure	
		Systemic	Local	Systemic	Local
Copper Sulphate CAS: 7758-98-7 EC: 231-847-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	0.0021 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0.043 mg/m <sup>3</sup>	Non-applicable

PNEC:

Identification					
Copper Sulphate CAS: 7758-98-7 EC: 231-847-6	STP	56 mg/l	Fresh Water	0.0128 mg/l	
	Soil	25.1 mg/kg	Marine Water	0.0004 mg/l	
	Intermittent	0.03 mg/l	Sediment (Fresh Water)	0.0114 mg/kg	
	Oral	Non-applicable	Sediment (Marine Water)	0.00114 mg/kg	

### 8.2. Exposure controls

General security and hygiene measures in the work place:

As a preventative measure it is recommended to use basic Personal Protection Equipment, with the corresponding "CE marking" in accordance with Directive 89/686/EC. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

Respiratory Protection:

LRP Pictogram: Mandatory respiratory tract protection  
PPE: Filter mask for gases, vapours and particles  
Labelling: CE CAT III  
CEN Standard: EN 149:2001+A1:2009; EN 405:2001+A1:2009  
Remarks: Replace when an increase in resistance to breathing is observed and/or a smell or taste of the contaminant is detected.

Specific protection for the hands:	LRP Pictogram: Mandatory hand protection PPE: NON-disposable chemical protective gloves Labelling: CE CAT III CEN Standard: EN 374-1:2003; EN 374-3:2003/AC:2006; EN 420:2003+A1:2009 Remarks: The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.
Ocular and facial protection:	LRP Pictogram: Mandatory face protection PPE: Face mask Labelling: CE CAT II CEN Standard: EN 166:2001; EN 167:2001; EN 168:2001; EN 172:1994/A1:2000; EN 172:1994/A2:2001; EN ISO 4007:2012 Remarks: Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.
Bodily protection:	LRP Pictogram: Mandatory complete body protection PPE: Disposable clothing for protection against chemical risks Labelling: CE CAT III CEN Standard: EN 13034:2005+A1:2009; EN 168:2001; EN ISO 13982-1:2004/A1:2010; EN ISO 6529:2001; EN ISO 6530:2005; EN 464:1994 Remarks: For professional use only. Clean periodically according to the manufacturer's instructions.
Additional emergency measures:	LRP Pictogram: Mandatory foot protection PPE: Safety footwear for protection against chemical risk Labelling: CE CAT III CEN Standard: EN ISO 20345:2011; EN 13832-1:2006; EN ISO 20344:2011 Remarks: Replace boots at any sign of deterioration. Emergency Shower: ANSI Z358-1; ISO 3864-1:2002 Eyewash stations: DIN 12 899; ISO 3864-1:2002

### Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D.

## SECTION 9: Physical and Chemical Properties

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

Physical state at 20 °C:	Liquid
Appearance:	Characteristic
Color:	Brown
Odor:	Characteristic
Density at 20 °C:	1070 - 1100 kg/m <sup>3</sup> (ISO 649-2)
Relative density at 20 °C:	1.07 - 1.1
pH:	2.1 - 3.1 (ASTM D3838-05)
Solubility property:	Miscible
Flash Point:	Non Flammable (>60 °C)

### 9.2. Other information

Non-applicable

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

No hazardous reactions are expected if the following technical instructions storage of chemicals. See section 7.

**10.2. Chemical stability**

Chemically stable under the conditions of storage, handling and use.

**10.3. Possibility of hazardous reactions**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

**10.4. Conditions to avoid**

Applicable for handling and storage at room temperature:

Shock and friction:	Not applicable
Contact with air:	Not applicable
Increase in temperature:	Not applicable
Sunlight:	Not applicable
Humidity:	Not applicable

**10.5. Incompatible materials**

Acids:	Not applicable
Water:	Not applicable
Combustive materials:	Not applicable
Combustible materials:	Not applicable
Others:	Not applicable

**10.6. Hazardous decomposition products**

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

SECTION 11: Toxicological Information

**11.1. Information on toxicological effects**

The experimental information related to the toxicological properties of the product itself is not available.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

Ingestion:	Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
Inhalation:	Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for inhalation. For more information see section 3.
Contact with the skin and the eyes:	Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for inhalation. For more information see section 3.
CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):	Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
Sensitizing effects:	Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitizing effects. For more information see section 3.
Specific target organ toxicity (STOT)-time exposure:	Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Specific target organ toxicity (STOT)-repeated exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute Toxicity		Genus
Copper Sulphate CAS: 7758-98-7 EC: 231-847-6	LD50 oral	2150 mg/kg (ATEi)	Rat
	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	

## SECTION 12: Ecological Information

### 12.1. Toxicity

Identification	Acute Toxicity		Specie	Genus
Copper Sulphate CAS: 7758-98-7 EC: 231-847-6	LC50	1 - 10 mg/l (96 h)		Fish
	EC50	1 - 10 mg/l		Crustacean
	EC50	1 - 10 mg/l		Alga

### 12.2. Persistence and degradability

Not available

### 12.3. Bioaccumulative potential

Not available

### 12.4. Mobility in soil

Not available

### 12.5. Results of PBT and vPvB assessment

Not classified

### 12.6. Other adverse effects

Not available

## SECTION 13: Disposal Considerations

### 13.1. Waste treatment methods

Code	Description	Waste Class (Directive 2008/98/EC)
	It is not possible to assign a specific code, as it depends on the intended use by the user	Dangerous



**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2000/532/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommend disposal down the drain. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of Regulation (EC) n°1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2000/532/EC: Commission Decision of 3 May 2000

**SECTION 14: Transport Information**

**Transport of dangerous goods by land:**

14.1 UN Number:	UN3082	With regard to ADR 2013 and RID 2013:
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	
14.3 Transport hazard class(es):	9	
Labels:	9	
14.4 Packing group:	III	
14.5 Dangerous for the environment:	Yes	
14.6 Special precautions for user:	Special Regulations: 274, 335, 601	
	Tunnel restriction code: E	
	Physico-Chemical properties: see section 9	
	Limited quantities: 5 L	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable	

**Transport of dangerous goods by sea:**

14.1 UN Number:	UN3082	With regard to IMDG 36-12:
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	
14.3 Transport hazard class(es):	9	
Labels:	9	
14.4 Packing group:	III	
14.5 Dangerous for the environment:	Yes	
14.6 Special precautions for user:	Special Regulations: 274, 909, 994	
	EmS Codes: F-A, S-F	
	Physico-Chemical properties: see section 9	
	Limited quantities: 5 L	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable	

**Transport of dangerous goods by air:**

14.1 UN Number:	UN3082	With regard to IATA/ICAO 2014:
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	
14.3 Transport hazard class(es):	9	
Labels:	9	
14.4 Packing group:	III	
14.5 Dangerous for the environment:	Yes	
14.6 Special precautions for user:	Physico-Chemical properties: see section 9	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Non-applicable	



## SECTION 15: Regulatory Information

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

Candidate substances for authorisation under the Regulation (EC) 1907/2006 (REACH): Non-applicable

Regulation (EC) 1005/2009, about substances that deplete the ozone layer: Non-applicable

Active substances for which a decision of non-inclusion onto Annex I (Regulation (EU) No 528/2012): Non-applicable

Regulation (EC) 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII, REACH): Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

### 15.2. Chemical Safety Assessment

The supplier has not carried out evaluation of chemical safety.

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## 16. OTHER INFORMATION

The information contained herein relates only to the designated formulation and may not be valid if product is used in combination with other substances. The information is to the best of our knowledge, belief and understanding, true, accurate and reliable at the date of issue. However, the information may neither be exhaustive or complete, and no warranty, guarantee or liability concerning the accuracy or completeness of the information is expressed or implied. It is the user's risk and sole responsibility to verify and satisfy their own criteria and duty of care concerning the validity of the information in relation to their application of the product.

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