

### 1. Identification

<b>Product identifier:</b>	Agro-Cu OP
<b>Product code:</b>	-----
<b>Supplier Name:</b>	Agro-100 Ltée 990 Chemin des Prairies Joliette, Québec Canada, J6E 0L4
<b>Telephone:</b>	(450) 759-8887
<b>Emergency tel. number:</b>	(450) 759-8887
<b>Available hours:</b>	8h00 - 16h00 Monday to Friday
<b>Recommended use:</b>	Liquid nutrient solution for foliar application
<b>Restriction on use:</b>	Respect application recommendations and suggested rates

### 2. Hazard identification

**Signal word:** WARNING

**Product classification:**



Reproductive toxicity - Category 2.

Skin irritation - Category 2. Serious eye irritation - Category 2A.

**Hazard statement(s):**

- H361 - Suspected of damaging fertility or the unborn child.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.

#### Precautionary statement(s)

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye protection/face protection. Wash hands thoroughly after handling and any other part of the body that may have been exposed to the product.

**Response:** IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice. IF exposed or concerned: Get medical advice.

**Storage:** Store locked up.

**Disposal:** Dispose of contents/container in accordance with local, regional, national and/or international regulations in force.

**Other hazards:** No other effects shown.

See toxicological information, section 11

### 3. Composition/ Information on ingredients

No	CAS No :	Common name and synonyms	Concentration % (w/w)
1	7758-99-8	Copper(II) sulfate pentahydrate	10.00 - 30.00

The actual concentration range is withheld as a trade secret.

### 4. First-aid measures

If swallowed, irritation, any type of overexposure or symptoms of overexposure occur during use of the product or persists after use, immediately contact a POISON CENTER, an EMERGENCY ROOM or a PHYSICIAN; ensure that the product safety data sheet is available.

**Eye contact:** Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention as soon as possible.

**Skin contact:** Remove contaminated clothing immediately. Wash the skin with soap and water. Thoroughly wet contaminated clothing. If irritation persists, consult a doctor.

**Inhalation:** Move exposed person to fresh air. Keep this person warm and lying down. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention immediately.

**Ingestion:** Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Symptoms:** This product could be irritating to skin, eyes, respiratory and digestive tracts. The severity of symptoms can vary depending on the exposure conditions (contact time, product concentration, etc.).

**Effects (acute or delayed):** This product is a serious irritant that may cause reversible damages to the cornea. Possible erythema of the skin. Studies suggest the possibility of an increase in congenital malformations.

**Immediate medical attention and special treatment:** No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### 5. Fire-fighting measures

**Suitable extinguishing media:** Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media:** Jets of water can facilitate the spread of fire.

**Specific hazards arising from the hazardous product:** No specific hazard.

**Hazardous combustion products:** Sulfur oxides. Copper oxides. Carbon monoxide and dioxide.

**Special protective equipment and precautions for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6. Accidental release measures

**Personal precautions:** No action shall be taken involving any personal risk or if you do not have suitable training or protection. Evacuate surrounding areas. Do not touch or walk through spilled material. Shut off all heating and ignition sources. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Protective equipment and emergency procedures:** Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution. Use inert absorbent or retention tubes in the event of a large spill.

**Methods and materials for containment and cleaning up:** Stop leak if without risk. Move containers from spill area. Contain leaks and pick up with non-combustible absorbent materials such as sand, earth or vermiculite. Then, place in an appropriate waste disposal container according to local regulations. Dispose of via a licensed waste disposal contractor.

### 7. Handling and storage

**Precautions for safe handling:** Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Conditions for safe storage:** Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

**Incompatibility:** Strong oxidizing agents. Strong bases. Finely divided metals (Ba, Be, Na, P, Al, Mg etc).

### 8. Exposure Controls/ Personal protection

#### Alberta

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	N/A	N/A	N/A	N/A

#### British-Columbia

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	N/A	N/A	N/A	N/A

### Ontario

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	N/A	N/A	N/A	N/A

### Quebec

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	N/A	N/A	N/A	N/A

### Saskatchewan

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	N/A	N/A	N/A	N/A

### United States

No	CAS No :	Common name and synonyms	IDLH NIOSH	Regulatory Limits			Recommended Limits	
				OSHA PEL		California / OSHA PEL	NIOSH REL	ACGIH® 2019 TLV®
				ppm	mg/m <sup>3</sup>	8-hour TWA (ST) STEL (C) Ceiling	Up to 10-hour TWA (ST) STEL (C) Ceiling	8-hour TWA (ST) STEL (C) Ceiling
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	N/A	N/A	N/A	N/A

IDHL: Immediately Dangerous to Life or Health Concentrations

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limits

California / OSHA: California Division of Occupational Safety and Health

REL: Recommended Exposure Limits

ACGIH®: American Conference of Governmental Industrial Hygienists

TLV®: Threshold Limit Values

**Appropriate engineering controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

**Individual protection measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using

the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eyes:** DO NOT WEAR CONTACT LENSES Wear anti-splash safety goggles.

**Hands:** 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties.

**Respiratory:** If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. 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.

**Others:** Wear protective clothing with long sleeves and appropriate safety shoes at all times.

## 9. Physical and chemical properties

**Physical state:** Liquid

**Colour:** Dark blue

**Odour:** Acrid

**Odour threshold:** Not available

**pH:** 3

**Melting/Freezing point:** 0 °C (32 °F)

**Initial boiling point/boiling range:** 100 °C (212 °F)

**Flash point:** Not applicable

**Flammability (Solid, Gas):** Not applicable

**Lower flammable/explosive limit:** Not applicable

**Upper flammable/explosive limit:** Not applicable

**Auto-ignition temperature:** Not applicable

**Evaporation rate:** 0,05 (Butyl acetate = 1)

**Vapour pressure:** 17,535 mm Hg at 20 °C

**Vapour density:** > 1 (air = 1)

**Specific gravity:** 1,131 kg/L at 20 °C (water = 1)

**Solubility in water:** Not applicable

**Partition coefficient – n-octanol/water (Log Kow):** Not applicable

**Decomposition temperature:** Not available

**Kinematic viscosity:** < 20,5 mm<sup>2</sup>/s (at 40 °C)

## 10. Stability and reactivity

**Reactivity:** Stable under recommended conditions of storage and handling.

**Chemical stability:** The product is chemically stable under normal conditions of use.

**Possibility of hazardous reactions:** No dangerous or polymerization reactions will occur under normal conditions of use.

**Conditions to avoid:** Keep away from incompatible products (see section 7).

**Incompatible materials:** This product can attack certain types of plastic, rubber or coatings.

**Hazardous decomposition products:** Sulfur oxides. Copper oxides. Carbon monoxide and dioxide.

### 11. Toxicological information

	Oral	Dermal	Inhalation gases	Inhalation vapours	Inhalation dusts/mists
ATE <sub>mix</sub>	4776.12 mg/kg	> 5 000 mg/kg	N/A	> 20 mg/l	> 5 mg/l

No	CAS No :	Common name and synonyms	LD <sub>50</sub> oral mg/kg	LD <sub>50</sub> skin mg/kg	LC <sub>50</sub> inhalation ppmV 4h - gases	LC <sub>50</sub> inhalation mg/l 4h - vapours	LC <sub>50</sub> inhalation mg/l 4h - dusts-mist
1	7758-99-8	Copper(II) sulfate pentahydrate	960	> 5000	N/A	N/A	> 5.00

**Routes of exposure:** This product is absorbed by the digestive tract.

**Symptoms:** This product could be irritating to skin, eyes, respiratory and digestive tracts. The severity of symptoms can vary depending on the exposure conditions (contact time, product concentration, etc.).

**Delayed and immediate effects:** This product is a serious irritant that may cause reversible damages to the cornea. Possible erythema of the skin. Studies suggest the possibility of an increase in congenital malformations.

Aspiration hazard	N/A
Skin corrosion - Skin irritation	Yes
Serious eye damage - Serious eye irritation	Yes
Skin sensitization	N/A
Respiratory sensitization	N/A
Specific target organ toxicity – single exposure	N/A
Specific target organ toxicity – single exposure Category 3 Narcotic effects	N/A
Specific target organ toxicity – single exposure Category 3 Respiratory tract irritation	N/A
Specific target organ toxicity – repeated exposure	N/A

No	CAS No :	Common name and synonyms	IARC	ACGIH	Mutagenicity	Effect on reproduction
1	7758-99-8	Copper(II) sulfate pentahydrate	N/A	N/A	The data do not allow for an adequate assessment of mutagenic effects.	No effects shown.

### Cancer classification under IARC (International Agency for Research on Cancer)

Group 1: carcinogenic to humans.  
 Group 2A: probably carcinogenic to humans.  
 Group 2B: possibly carcinogenic to humans.  
 Group 3: not classifiable as to its carcinogenicity to humans.  
 Group 4: probably not carcinogenic to humans.

### Cancer classification under ACGIH (American Conference of Governmental Industrial Hygienists)

Group A1: confirmed human carcinogen.  
 Group A2: suspected human carcinogen.  
 Group A3: confirmed animal carcinogen with unknown relevance to humans.  
 Group A4: not classifiable as a human carcinogen.  
 Group A5: not suspected as a human carcinogen.

## 12. Ecological information

### Ecotoxicity

No	CAS No :	Common name and synonyms	%	Aquatic Ecotoxicity short term	Aquatic Ecotoxicity long term	Terrestrial Ecotoxicity
1	7758-99-8	Copper(II) sulfate pentahydrate	10.00 - 30.00	Very toxic to aquatic life.	Very toxic to aquatic life with long lasting effects.	No known adverse effect to the environment.

### Persistence and degradability. Bioaccumulative potential. Other adverse effects

No	CAS No :	Common name and synonyms	%	Persistent	Bio-accumulation	Aquatic ecotoxicity
1	7758-99-8	Copper(II) sulfate pentahydrate	10.00 - 30.00	N.D.	N.D.	N.D.

**Degradability:** N/A

**Mobility in soil:** N/A

### 13. Disposal considerations

**Methods of disposal:** The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

### 14. Transport information

	<b>TDG</b>	<b>DOT</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN Number</b>	3082	3082	3082	3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper sulfate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper sulfate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper sulfate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper sulfate)
<b>Transport hazard class(es)</b>	9	9	9	9
<b>Packing group</b>	III	III	III	III

**Transport in bulk** (according to Annex II of the International Convention for the Prevention of Pollution From Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78), and the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code)): N/A

**Marine pollutant:** Yes

**TDG:** The identification of marine pollutant is not required for transport by ground.

**IMDG:** The mark « marine pollutant » is not required when the substance is carried in quantities <= 5L or <= 5 Kg.

**Exemption for limited quantity:** 5 L

In accordance with the Canadian Transport of Dangerous Goods regulations by Road, we use the 1.17 exemption when applicable. In accordance with 49 CFR article 172.315 for transportation by a mode other than air, we use the Limited quantities exemption when applicable.

**Other exemptions:** Not applicable

**Special precautions:** Not applicable



### 15. Regulatory information

#### Canada

No	CAS No :	Common name and synonyms	%	DSL	NDSL	NPRI
1	7758-99-8	Copper(II) sulfate pentahydrate	10.00 - 30.00	X		

#### United States

No	CAS No :	Common name and synonyms	%	TSCA	PROP-65	RTK
1	7758-99-8	Copper(II) sulfate pentahydrate	10.00 - 30.00	X		

*The customer is responsible for determining the PPE (personal protection equipment) code for this material.*

*The classification of the product and the SDS were developed in accordance with HPR and HazCom 2012.*

### 16. Other information

**Date:** 2021-12-03

**Version:** 1

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