

## 1. Identification

**Product identifier:** Agro-Mn Oligo Prime 8-0-0 + 6% Mn + 0.5% Fe + 3.5% S  
**Other means of identification:** Agro-Mn OP  
**Recommended use:** Liquid fertilizer  
**Restriction on use:** Respect application recommendations and suggested rates  
**Supplier Name:** Agro-100 Ltée  
 990 Chemin des Prairies  
 Joliette, Québec  
 Canada, J6E 0L4  
**Telephone:** (450) 759-8887  
**Emergency tel. number:** (450) 759-8887  
**Available hours:** 8h00 - 16h00 Monday to Friday

## 2. Hazard identification

**Signal word:** DANGER

**Product classification:**



Specific target organ toxicity – repeated exposure - Category 1.

Serious eye irritation - Category 2A.

**Hazard statement(s):** H372 - Causes damage to organs (brain) through prolonged or repeated exposure.  
 H319 - Causes serious eye irritation.

### Precautionary statement(s)

**Prevention:** Do not breathe mist, vapors and spray. Wash hands thoroughly after handling and any other part of the body that may have been exposed to the product. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye and face protection.

**Response:** 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. Get medical advice if you feel unwell.

**Storage:** Not applicable

**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	10034-96-5	Manganese(II) sulfate hydrate	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. If eye irritation persists: Get medical advice.

**Skin contact:** Remove contaminated clothing immediately. Wash the skin with soap and water. Thoroughly wet contaminated clothing. If irritation, 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:** If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting unless instructed by medical personnel.

**Symptoms:** Decreased concentration and memory, sleep disturbances, irritability and muscular aches.

**Effects (acute or delayed):** Several studies in workers show that prolonged exposure to high concentrations (usually > 5 mg / m<sup>3</sup>) of manganese in the air, or its inorganic compounds, causes manganism. Manganese is a neurological syndrome associated with the accumulation of manganese in the brain. Its development is progressive and disabling. Following repeated exposure paresthesia, speech disorder (monotone, stuttering) and gait (loss of balance, difficulty walking backwards), slight tremor, difficulty in writing, decreased manual dexterity, frozen facies, emotional instability, memory and judgment disorders, slow and clumsy movements, uncontrolled laughter and crying.

**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:** May release dangerous fumes.

**Hazardous combustion products:** Carbon monoxide and dioxide. Sulfur oxides. Oxides of manganese. Nitrogen oxides. Hydrocyanic acid. Cyanuric acid. Ammonia.

**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 bases as well as strong oxidizing agent. Chlorinated products. Nitrates and nitrites.

## 8. Exposure Controls/ Personal protection

### Control parameters:

#### Occupational exposure limit values:

##### 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	10034-96-5	Manganese(II) sulfate hydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

##### 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	10034-96-5	Manganese(II) sulfate hydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

## Safety Data Sheet

Agro-Mn Oligo Prime 8-0-0 + 6% Mn + 0.5% Fe + 3.5% S

### 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	10034-96-5	Manganese(II) sulfate hydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

### 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	10034-96-5	Manganese(II) sulfate hydrate	Not listed	0.2 inh, 0.05 resp	Not listed	Not listed	Not listed	Not listed

### 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	10034-96-5	Manganese(II) sulfate hydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

### United States

No	CAS No :	Common name and synonyms	IDLH NIOSH	Regulatory Limits			Recommended Limits	
				OSHA PEL		California / OSHA PEL	NIOSH REL	ACGIH ® 2025 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	10034-96-5	Manganese(II) sulfate hydrate	500	Not listed	Not listed	Not listed	Not listed	Not listed

IDLH: 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.

**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.

### Agro-Mn Oligo Prime 8-0-0 + 6% Mn + 0.5% Fe + 3.5% S

**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:** Light brown

**Odour:** Odorless

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

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

**Flammability:** Not applicable

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

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

**Flash point:** Not applicable

**Auto-ignition temperature:** Not applicable

**Decomposition temperature:** > 100 °C (212 °F)

**pH:** 5.1

**Kinematic viscosity:** > 20.5 mm<sup>2</sup>/s (at 40 °C)

**Solubility (in water):** Miscible

**Partition coefficient – n-octanol/water (Log Kow):** < 1

**Vapour pressure:** 17.535 mm Hg at 20 °C

**Density and relative density:** 1.301 kg/L at 20 °C (water = 1)

**Relative vapour density:** < 1 (air = 1)

**Particle characteristics:** Not applicable

## 10. Stability and reactivity

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

**Chemical stability:** This product is unstable under the following conditions: The product begins to decompose when heated to temperatures below 100°C.

**Possibility of hazardous reactions:** No dangerous or polymerization reactions will not occur under normal conditions of use. May release toxic and corrosive products when heated.

**Conditions to avoid:** Keep away from incompatible products (see section 7). Some risk may be expected of corrosive and toxic decomposition products. To avoid thermal decomposition, do not overheat.

**Incompatible materials:** None known at room temperature.

**Hazardous decomposition products:** Carbon monoxide and dioxide. Sulfur oxides. Oxides of manganese. Nitrogen oxides. Cyanuric acid. Ammonia.

## 11. Toxicological information

	Oral	Dermal	Inhalation gases	Inhalation vapours	Inhalation dusts/mists
ATE <sub>product</sub>	5397.65 mg/kg	6446.97 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	10034-96-5	Manganese(II) sulfate hydrate	2150	> 5000	N/A	N/A	> 5.00

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

**Symptoms:** Decreased concentration and memory, sleep disturbances, irritability and muscular aches.

**Delayed and immediate effects:** Several studies in workers show that prolonged exposure to high concentrations (usually > 5 mg / m<sup>3</sup>) of manganese in the air, or its inorganic compounds, causes manganism. Manganese is a neurological syndrome associated with the accumulation of manganese in the brain. Its development is progressive and disabling. Following repeated exposure paresthesia, speech disorder (monotone, stuttering) and gait (loss of balance, difficulty walking backwards), slight tremor, difficulty in writing, decreased manual dexterity, frozen facies, emotional instability, memory and judgment disorders, slow and clumsy movements, uncontrolled laughter and crying.

Aspiration hazard	N/A
Skin corrosion - Skin irritation	N/A
Serious eye damage - Serious eye irritation - 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	Yes

No	CAS No :	Common name and synonyms	IARC	ACGIH	Mutagenicity	Effect on reproduction
1	10034-96-5	Manganese(II) sulfate hydrate	Not listed	A4	No effects shown.	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	10034-96-5	Manganese(II) sulfate hydrate	10.00 - 30.00	Not available.	Toxic to aquatic life with long lasting effects.	Harmful to the environment.

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

No	CAS No :	Common name and synonyms	%	Persistent	Bio-accumulation	Aquatic ecotoxicity
1	10034-96-5	Manganese(II) sulfate hydrate	10.00 - 30.00	N/A	N/A	N/A

**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

	TDG	DOT	IMDG	IATA
UN Number				
Proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated
Transport hazard class(es)				
Packing group				

## Canada - ERAP

Not applicable

## United States - Reportable Quantities (RQ)

Not applicable

**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:** No

**Exemption for limited quantity:** Not applicable

**Other exemptions:** Not applicable

**Special precautions:** Not applicable

## 15. Regulatory information

### Canada

No	CAS No :	Common name and synonyms	%	DSL	NDSL	NPRI
1	10034-96-5	Manganese(II) sulfate hydrate	10.00 - 30.00	X		

### United States

No	CAS No :	Common name and synonyms	%	TSCA	PROP-65	RTK
1	10034-96-5	Manganese(II) sulfate hydrate	10.00 - 30.00	X		

The classification of the product and the SDS were developed in accordance with HPR 2015 and HCS 2024.

## 16. Other information

**Date:** 2025-04-22

**Version:** 1

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