

1. Identification

Product name: InnoAg Start
Recommended use: Fertilizers
Supplier: Primary BioAg InnovationsTM
P.O. Box 35
American Fork, UT 84003
info@bioaginnovations.com - www.bioaginnovations.com

No additional information available

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2. Hazard(s) identification

Classification:

Physical hazards	Health hazards
Not classified	Serious eye damage Category 1 Reproductive toxicity Category 2 Specific target organ toxicity (repeated exposure) Category 2

GHS US labeling:

Danger!



Hazard statements (GHS US)	Precautionary statements (GHS US)
H318 - Causes serious eye damage H361 - Suspected of damaging fertility or the unborn child H373 - May cause damage to the brain through prolonged or repeated exposure by inhalation.	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust. P280 - Wear eye protection, protective clothing. P308+P313 - If exposed or concerned: 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. P405 - Store locked up. P501 - Dispose of contents or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

3: Composition/Information on ingredients

Component	CAS-No.	Amount (%)
Calcium chloride	10043-52-4	5 - 10
Manganese Sulfate Monohydrate	10034-96-5	1 - 5
Ferrous Sulfate Monohydrate	17375-41-6	1 - 5
Zinc Sulphate	7446-19-7	1 - 5
Copper sulphate	7758-98-7	1 - 5
Disodium octaborate tetrahydrate	12280-03-4	< 1

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

4. First-aid measures

Inhalation: Move the affected person to the fresh air. Get medical attention if symptoms occur.

Skin: Gently wash with plenty of soap and water. Get medical advice if skin irritation persists. Wash contaminated clothing before reuse.

Eyes: Immediately flush eyes thoroughly with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion: Call a poison center or a doctor if you feel unwell.

Symptoms/effects: Causes serious eye damage. May cause minor irritation to the respiratory tract and to other mucous membranes. This product may cause reproductive harm and/or developmental effects. May cause damage to the brain through prolonged or repeated exposure if inhaled.

Immediate medical attention and special treatment, if necessary: Immediate medical attention is required for eye contact.

5. Fire-fighting measures

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: None.

Fire hazard: This product is not classified as flammable or combustible.

Special protective equipment and precautions for fire-fighters: Do not attempt to take action without suitable protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear suitable protective clothing. Avoid contact with eyes, skin and clothing.

Methods and material for containment and cleaning up: Collect spillage. Mechanically recover the product. Notify authorities if product enters sewers or public waters. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

7. Handling and storage

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with eyes, skin and clothing. Wear personal protective equipment. Wash hands with water and soap. Do not breathe dust. Ensure adequate ventilation.

Storage conditions: Store locked up.

8. Exposure controls/personal protection

Exposure guidelines:	
Zinc Sulphate	None established.
Manganese Sulfate Monohydrate	5 mg/m ³ compounds (as Mn) Ceiling OSHA 0.1 mg/m ³ (I - Inhalable particulate matter) TWA ACGIH TLV 0.02 mg/m ³ (R - Respirable particulate matter) TWA ACGIH TLV
Copper sulphate	None established.
Disodium octaborate tetrahydrate	2 mg/m ³ (I - Inhalable particulate matter) TWA ACGIH TLV 6 mg/m ³ (I - Inhalable particulate matter) STEL ACGIH TLV
Calcium chloride	None established.
Ferrous Sulfate Monohydrate	None established.

Appropriate engineering controls: No particular/specific measures required.

Environmental exposure controls: Avoid release to the environment.

Personal protective equipment:

Hand protection: Wear suitable gloves

Eye protection: Chemical goggles.

Skin and body protection: Wear suitable protective clothing

Respiratory protection: Wear respiratory protection. In operations where exposure limits are exceeded or exposure levels are excessive, an approved respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

9. Physical and chemical properties

Physical state	: Solid	Relative density	: 1 - 1.1
Color	: light green	Solubility	: Soluble in water.
Odor	: mild	Log Pow	: No data available
Odor threshold	: No data available	Auto-ignition temperature	: Not applicable
pH	: 3 - 4 (1%)	Decomposition temperature	: No data available
Melting point	: No data available	Viscosity, kinematic	: Not applicable
Freezing point	: Not applicable	Viscosity, dynamic	: No data available
Boiling point	: No data available	Explosion limits	: Not applicable
Flash point	: Not applicable	Explosive properties	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available	Oxidizing properties	: No data available
Flammability (solid, gas)	: Non flammable.		
Vapor pressure	: No data available		
Relative vapor density at 20 °C	: No data available		

No additional information available

10. Stability and reactivity

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: No dangerous reactions known under normal conditions of use.

Conditions to avoid: None known.

Incompatible materials : Acids. Oxidizing agent.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Inhalation: May cause minor irritation to the respiratory tract and to other mucous membranes.

Skin: Contact during a long period may cause slight irritation.

Eyes: Serious damage to eyes.

Ingestion: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic symptoms: Prolonged overexposure to manganese has been shown to cause permanent neurological damage in humans. This product may cause reproductive harm and/or developmental effects.

Carcinogenicity: Not classified

Zinc Sulphate: This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.

Manganese Sulfate Monohydrate: This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.

Copper sulphate: This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.

Disodium octaborate tetrahydrate: This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.

Calcium chloride: This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.

Ferrous Sulfate Monohydrate: This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.

Germ cell mutagenicity: Not classified

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity: Oral rat LD50- 8471 mg/kg;

Acute Toxicity Estimate: ATE US (oral): 8471 mg/kg body weight

The following are the toxicity values for the components:

Zinc Sulphate: Oral rat LD50- 1710 mg/kg; Dermal rat LD50- > 2000 mg/kg;

Manganese Sulfate Monohydrate: Oral rat LD50- 2150 mg/kg;

Copper sulphate: Oral rat LD50- 481 mg/kg; Dermal rat LD50- > 2000 mg/kg;

Disodium octaborate tetrahydrate: Oral rat LD50- 2550 mg/kg; Dermal rabbit LD50- > 2000 mg/kg;

Calcium chloride: Oral rat LD50- 2120 mg/kg; Dermal rabbit LD50- > 5000 mg/kg body weight
Animal: rabbit;

Ferrous Sulfate Monohydrate: Oral rat LD50- 500 mg/kg; Dermal rat LD50- > 2000 mg/kg;

Skin corrosion/irritation	Not classified pH: 3 - 4 (1%)
Serious eye damage/irritation	Causes serious eye damage. pH: 3 - 4 (1%)
Respiratory or skin sensitization	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified

12. Ecological information

Ecology - general: Very toxic to aquatic life with long lasting effects.

Ecotoxicity:

Zinc Sulphate	0.169 mg/L Fish LC50; 0.147 mg/L Daphnia EC50
Manganese Sulfate Monohydrate	49.9 mg/L Fish LC50; 3 mg/L Daphnia EC50; 61 mg/L Algae ErC50
Copper sulphate	0.0384 mg/L Fish LC50; mg/L Algae ErC50
Disodium octaborate tetrahydrate	79.7 mg/L Fish LC50; 52.4 mg/L Algae ErC50
Calcium chloride	4630 mg/L Fish LC50

Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available

Other adverse effects:

No data available

13. Disposal considerations

Regional legislation (waste): Dispose of in accordance with applicable federal, state, and local regulations.

14. Transport information

Department of Transportation (DOT)

Not regulated for transport

Transport by sea

Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Sulphate ; Copper sulphate)
UN-No. (IMDG)	: 3077
Class (IMDG)	: 9
Packing group (IMDG)	: III
Marine pollutant	: Yes

Air transport

Proper Shipping Name (IATA)	: Environmentally hazardous substance, solid, n.o.s. (Zinc Sulphate ; Copper sulphate)
UN-No. (IATA)	: 3077
Class (IATA)	: 9
Packing group (IATA)	: III

15. Regulatory information

SARA Section 313 - Emission Reporting:

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Manganese Sulfate Monohydrate	10034-96-5	1 - 5%
Copper sulphate	7758-98-7	1 - 5%

CERCLA Section 103:

Zinc Sulphate	7446-19-7	1000 lb
Copper sulphate	7758-98-7	10 lb
Ferrous Sulfate Monohydrate	17375-41-6	1000 lb

SARA 302:

Not applicable

SARA Section 311/312 Hazard Classes: Refer to Section 2 for OSHA Hazard Classification.

California Proposition 65:

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

TSCA: All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

INTERNATIONAL INVENTORIES

Australia AICS:	One or more ingredient(s) are not listed
Canada DSL:	One or more ingredient(s) are not listed
China IECSC:	One or more ingredient(s) are not listed
EU EINECS:	One or more ingredient(s) are not listed
Japan ENCS:	One or more ingredient(s) are not listed
Korea KECL:	One or more ingredient(s) are not listed
New Zealand:	One or more ingredient(s) are not listed
Philippines PICCS:	One or more ingredient(s) are not listed
Taiwan CSNN	One or more ingredient(s) are not listed

16. Other information

Revision date : 04/07/2020

NOTICE

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. The company listed in Section 1 shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.