MATERIAL SAFETY DATA SHEET
GOLDEN HARVEST

Printed: 02/07/2018
Revision: 03/29/2016

1. Product and Company Identification

Product Code: Z-GOLDENHARVEST

Product Name: GOLDEN HARVEST

Trade Name: GOLDEN HARVEST

Manufacturer Information

Company Name: Stoller Enterprises
284 Industrial Drive
Regina, SK,

Emergency Contact: CHEMTREC, In the US and Canada call 1 (800)424-9300

Alternate Emergency Contact: CHEMTREC, From other countries call +1 (703)527-3887

Information: For agricultural use only 1 (800)539-5283

Web site address: http://stollerenterprises.ca/

Revision Date: 03/29/2016

2. Composition/Information on Ingredients

Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Boric acid	10043-35-3	< 0.5 %	No data.	2 mg/m³	No data.
2. Sodium molybdate	10102-40-6	< 0.2 %	5 mg/m³ as Mo	5 mg/m³ as Mo	No data.
3. Potassium chloride	7447-40-7	< 5.0 %	No data.	10 mg/m³	No data.
4. Phosphoric acid	7664-38-2	<30.0 %	1 mg/m3	1 mg/m3	No data.
5. Zinc chloride	7646-85-7	< 1.0 %	1 mg/m3	1 mg/m3	No data.
6. Citric acid	77-92-9	< 6.0 %	No data.	No data.	No data.
7. Copper(II) sulfate pentahydrate	7758-99-8	< 0.5 %	No data.	1 mg/m³ as Cu	No data.
8. Manganese chloride	7773-01-5	< 1.0 %	No data.	0.2 mg/m³ as Mn	No data.
9. Magnesium chloride	7786-30-3	< 4.0 %	No data.	No data.	No data.
10. Ferrous chloride	7758-94-3	< 1.0 %	No data.	1 mg/m³ as Fe	No data.
11. Cobalt sulfate heptahydrate	10026-24-1	< 0.1 %	No data.	100 mg/m³ as Co	No data.
12. Urea	57-13-6	<12.0 %	No data.	No data.	No data.

Components (Chemical Name)	CAS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Boric acid	10043-35-3	No data.	No data.	6 mg/m³	No data.
2. Sodium molybdate	10102-40-6	No data.	No data.	No data.	No data.
3. Potassium chloride	7447-40-7	No data.	No data.	No data.	No data.
4. Phosphoric acid	7664-38-2	No data.	No data.	3 mg/m3	No data.
5. Zinc chloride	7646-85-7	No data.	No data.	2 mg/m3	No data.
6. Citric acid	77-92-9	No data.	No data.	No data.	No data.
7. Copper(II) sulfate pentahydrate	7758-99-8	No data.	No data.	No data.	No data.
8. Manganese chloride	7773-01-5	No data.	No data.	No data.	No data.
9. Magnesium chloride	7786-30-3	No data.	No data.	No data.	No data.
10. Ferrous chloride	7758-94-3	No data.	No data.	No data.	No data.
11. Cobalt sulfate heptahydrate	10026-24-1	No data.	No data.	No data.	No data.
12. Urea	57-13-6	No data.	No data.	No data.	No data.

3. Hazards Identification

Potential Health Effects (Acute and Chronic)

Acute: Depending on the duration of contact, overexposure can irritate the eyes, skin, mucous membranes and any other exposed tissue.

Inhalation

Causes respiratory tract irritation.

Skin Contact

May be harmful if absorbed through skin.

May cause skin irritation.

Eye Contact

Causes eye irritation.

Causes redness and pain.

Ingestion

Harmful if swallowed. May cause irritation of the digestive tract. May cause nausea and vomiting.

Recommended Exposure Limits

No occupational exposure limits have been established for this mixture.

Signs and Symptoms Of Exposure

Solution and/or solids may be visible on the skin and/or eyes. Localized redness, warmth, and irritation consistent with mechanism of injury: abrasion, burn, hypertonic solution.

Medical Conditions Generally Aggravated By Exposure

Any eye condtion that compromises tear production, conjunctiva, or normal corneal homeostasis.

4. First Aid Measures

Emergency and First Aid Procedures

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

In Case of Inhalation

Remove from exposure and move to fresh air immediately. If not breathing give artificial respiration. If breathing becomes difficult, call a physician.

In Case of Skin Contact

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Consult a physician.

In Case of Eye Contact

Call a physician if irritation persists. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

In Case of Ingestion

Drink plenty of water. Call a physician or poison control center immediately for advice on inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person.

Note to Physician

Treat symptomatically and supportively.

Indication of any immediate medical attention and special treatment needed

No data available.

5. Fire Fighting Measures

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Flammable Properties and Hazards

Sulphur oxides, Manganese/manganese oxides. Copper oxides.

Hazardous Combustion Products

N.A.

Extinguishing Media

Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

None known.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

It is necessary to contain the spill into the smallest area possible by diking, scooping, etc. and recover the product into an appropriate container, labeling it accordingly. If product is clean, use it as intended following original label directions; should it get contaminated, salvage for proper disposal as waste.

Absorb residual product onto dry carrier such as dirt, sand or any other absorbent material, then collect in covered, labeled containers and dispose of as dry waste in accordance with Federal, State, and Local waste disposal regulations.

Protective Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Environmental Precautions

If spilling or leakage occurs, contain and clean if safe to do so. Prevent from reaching drains, sewer, or waterways. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste.

7. Handling and Storage

Precautions To Be Taken in Handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Provide appropriate exhaust ventilation at places where dust is formed.

Precautions To Be Taken in Storing

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in a dry place. Hygroscopic. Store in a cool, dry place, away from food, feed, clothing materials and living quarters. Whenever possible, place chemicals on secondary containers or diked area. Inspect all incoming containers before storage to ensure all are properly labeled and not damaged. Keep containers tightly closed when not in use. Moisture sensitive.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Eye Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses with side-shields conforming to EN166. Safety glasses.

Protective Gloves

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval

for any specific use scenario.

Other Protective Clothing

Complete suit protecting against chemicals. Choose body protection according to the amount and concentration of the dangerous substance at the work place. Impervious clothing. Wear long sleeve shirt and long pants, waterproof gloves and shoes plus socks.

Engineering Controls (Ventilation etc.)

General ventilation is usually adequate. Local exhause should be used if needed for safe, comfortable working conditions.

An eye bath and washing facilities should be readily available.

Work/Hygienic/Maintenance Practices

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Remove all dirty or contaminated clothing and wash it before reusing, as well as any other PPE.

Environmental Exposure Controls

If spilling or leakage occurs, contain and clean if safe to do so. Prevent from reaching drains, sewer, or waterways. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.

Explosive Properties

No data available.

Oxidizing Properties

No data available.

Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Specific Gravity (Water = 1):	~ 1.26 - 1.3
Density:	~ 10.8
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
pH:	< 1.0

Appearance and Odor

Clear amber to light brown color.
Slight ammonia odor.

10. Stability and Reactivity

Stability:	Unstable [ ] Stable [X]

Reactivity

No data available.

Conditions To Avoid - Instability

Stable under normal conditions.

Incompatibility - Materials To Avoid

Strong oxidizing agents.

Hazardous Decomposition or Byproducts

Sulfur dioxide, carbon dioxide.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

Mutagenicity: This product has not been investigated for mutagenic effects.
Embryotoxicity: This product has not been investigated for embryotoxic effects.
Teratogenicity: This product has not been investigated for teratogenic effects.
Reproductive Toxicity: This product has not been investigated for toxic reproductive effects.
CAS# 10043-35-3: Boric acid:
Acute toxicity, LD50, Oral, Rat, 2660. MG/KG.
Result:
Gastrointestinal:Hypermotility, diarrhea.
Gastrointestinal:Nausea or vomiting.
- Journal of the American Medical Association, American Medical Association, 535 N. Dearborn St., Chicago, IL 60610, Vol/p/yr: 128,266, 1945

CAS# 7664-38-2: Phosphoric acid:
Acute toxicity, LD50, Oral, Rat, 1530. MG/KG.
Result:
Behavioral: Somnolence (general depressed activity).
Kidney, Ureter, Bladder:Hematuria.
Skin and Appendages: Other: Hair.
- BIOFAX Industrial Bio-Test Laboratories, Inc., Data Sheets., Vol/p/yr: 17-4, 1970

Acute toxicity, LD50, Skin, Species: Rabbit, 2740. MG/KG.
Result:
Behavioral: Somnolence (general depressed activity).
Behavioral: Excitement.
- BIOFAX Industrial Bio-Test Laboratories, Inc., Data Sheets., Vol/p/yr: 17-4, 1970

CAS# 7758-99-8: Copper(II) sulfate pentahydrate:
Acute toxicity, LD50, Oral, Rat, 300.0 MG/KG.
Result:
Behavioral: Altered sleep time (including change in righting reflex).
Behavioral: Change in motor activity (specific assay).
Behavioral: Antipsychotic.
- "Agricultural Chemicals," 1976/77 revision, Thomson, W.T., 4 vols., Thomson Publications, Fresno, CA, Vol/p/yr: 2,182, 1977

CAS# 57-13-6: Urea:
Acute toxicity, LD50, Oral, Rat, 8471. MG/KG.
Result:
Autonomic Nervous System: Other (direct) parasympathomimetic.
Behavioral: Coma.
Gastrointestinal:Hypermotility, diarrhea.
- Gigiena i Sanitariya, Mezhdunarodnaya Kniga, ul. B. Yakimanka, 39, 113095, Moscow 113095 Russia, Vol/p/yr: 51(6),8, 1986

Chronic Toxicological Effects

The toxicological properties of this material have not been fully investigated.

Irritation or Corrosion

No data available.

Symptoms related to Toxicological Characteristics

No data available.

Sensitization

No data available.

Carcinogenicity/Other Information

The carcinogenic properties of this product have not been thoroughly investigated.

Carcinogenicity: NTP? N.A. IARC Monographs? N.A. OSHA Regulated? N.A.

Not available. burning sensation, Cough, Wheezing, Laryngitis, Shortness of breath, Spasm, inflammation and edema of the larynx, Spasm, inflammation and edema of the bronchi, Pneumonitis, Pulmonary edema. Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. Prolonged or repeated inhalation may cause: Pneumonia, Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, anderythematous lesions on the skin and mucous membranes. Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions, and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams. Liver - Irregularities - Based on Human Evidence .

12. Ecological Information

General Ecological Information

No environmental impact studies have been performed with this product. The available data on the ingredients of this plant nutrient product does not indicate any undue hazard to the environment under anticipated use and storage. Any waste due to spillage or leakage should be contained and disposed of accordingly, see Section 6 "Accidental Release Measures." Due to its nutritional nature, may cause eutrophication if dicharged in bodies of water. Due to its nutrient value, may contribute to eutrophication in bodies of water.

Results of PBT and vPvB assessment

No data available.

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility in Soil

No data available.

13. Disposal Considerations

Waste Disposal Method

This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Contaminated packaging: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Observe all federal, state, and local environmental regulations.

14. Transport Information

LAND TRANSPORT (Canadian TDG)

TDG Shipping Name	Corrosive liquid, N.O.S. Phosphoric acid and Zinc chloride solution
UN Number:	1760
Hazard Class:	8 - CORROSIVE
Packing Group:	II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name	Corrosive liquid, N.O.S. Phosphoric acid and Zinc chloride solution
UN Number:	1760
Hazard Class:	8 - CORROSIVE
Packing Group:	II

MARINE TRANSPORT (IMDG/IMO)

IMDG/IMO Shipping Name	Corrosive liquid, N.O.S. Phosphoric acid and Zinc chloride solution
UN Number:	| |
Hazard Class:	8 - CORROSIVE
Packing Group:	II
IMDG MFAG Number:	|
IMDG EMS Page:	|

Additional Transport Information

No data available.

15. Regulatory Information

Canadian WHMIS Classification

No data available.

Regulatory Information

No data available.

16. Other Information

Company Policy or Disclaimer

Stoller believes the information contained in this Safety Data Sheet is accurate based on the information provided by reputable suppliers of our raw materials. However, Stoller does not guarantee their accuracy or completeness. The information contained herein is furnished without warranty of any kind, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for any particular purpose. Users should consider these data only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Stoller assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of goods and data.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required