CHEMICAL & FERTILIZER CORPORATION

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: Millerplex®
Chemical Name: Fertilizer
Common Name, Synonym: Liquid Fertilizer
Material Uses: Liquid Agricultural Fertilizer
Manufacturer/Manufactured For: Miller Chemical and Fertilizer Corporation
Phone: (717) 632-8921 FAX: (717) 646-1104 CHEMTREC: (800) 424-9300

Section 2 – Hazards Identification

Inhalation: May cause minor irritation
Skin Contact: Repeated or prolonged skin contact may cause irritation
Eye Contact: May cause minor eye irritation
Ingestion: May cause gastric irritation/abdominal pain.

Section 3 – Composition/Information on Ingredients

Component	CAS RN	EC No.	Concentration
Powder Seaweed Extract	84775-78-0	283-907-6	< 50% w/w
Monopotassium Phosphate	7778-77-0	231-913-4	< 6% w/w
Urea	57-13-6	200-315-5	< 7% w/w
Water	7732-18-5	231-791-2	< 37% w/w

Section 4 – First Aid Measures

EYE CONTACT
In case of eye contact, immediately rinse with clean water for 10-15 minutes. Seek medical advice

SKIN CONTACT
Wash skin thoroughly with mild soap and water. Remove contaminated clothing and shoes. Wash clothing before re-using.

INHALATION
Assure fresh air breathing. If breathing is difficult, give oxygen. If breathing stops, perform cardio pulmonary resuscitation (CPR). Seek medical advice.

INGESTION
Immediately rinse mouth with water. Do not induce vomiting. Seek medical attention if ill effect develops

Section 5 – Fire-Fighting Measures

Extinguishing Media:	Dry chemical, carbon dioxide, foam, water fog
Fire Fighting Procedure:	Firefighters should wear proper protective equipment and self contained breathing apparatus.
Explosive Hazard:	Not Known
Hazardous Combustion Products:	Oxides of carbon under fire conditions.
Special Fire Fighting Procedures:	Prevent human exposure to fire, fumes, smoke and products of combustion. Evacuate non-essential personnel. Firefighters should wear full face, self-contained apparatus and impervious protective clothing. Direct streams of water may splash and spread flaming liquid. Use water to cool containers exposed to fire.
Unusual Fire and Explosion Hazards:	None currently known.

Section 6 – Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Personal Precautions
Evacuate non-essential personnel, eliminate ignition sources, and wear protective equipment (See Section VIII).

Environmental Precautions
Avoid run-offs to sewers or waterways.

Methods of Cleaning Up
Eliminate all sources of ignition. Dike or impound to keep product out of sewers and watercourses. Absorb spill with inert material. Shovel into waste containers. Wash area with water, absorb water with inert material. Continue procedure until no odor remains. *As conditions warrant, notify proper authorities, downstream sewer and water treatment operations, and other downstream users about potentially contaminated water.*

Section 7 – Handling and Storage

Handling: Initiate normal safety procedures. Avoid all direct contact with this material. Avoid all direct contact with this material. Launder contaminated clothing before reuse. Use good personal hygiene and good housekeeping.

Storage: ***Store at temperatures between 5 C and 40°C***, in well-ventilated areas from heat or flame.

Section 8 – Exposure Controls/Personal Protection

Engineering Controls:
Mechanical: General ventilation is usually adequate.
Mechanical ventilation may be required to maintain exposure levels below limits.

Respiratory Protection: If exposure limits are exceeded, or if exposure may occur, use a NIOSHA/MSHA respirator approved for your conditions of exposure. Refer to the most recent NIOSHA publications concerning chemical hazards, or consult your safety equipment supplier. Respiratory protection programs must be in compliance with OSHA requirements in 29 CFR 1910.134. For emergencies, a NIOSHA/MSHA approved positive pressure-breathing apparatus should be readily available.

Eye Protection: Wear safety glasses with side shields according EN 166

Skin Protection: Chemical resistant gloves recommended. Clean protective body covering, rubber apron, and rubber boots.

Work Hygienic Practices: Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking or smoking. If contact occurs, remove contaminated clothing. If needed, take First Aid action shown in Section IV. Launder contaminated clothing before use.

Other Protective Equipment: Safety shower, eye wash fountain, and washing facilities should be readily available.

Section 9 – Physical and Chemical Properties

Appearance:	Dark brown liquid
Odor:	Moderate
pH (aqueous approx. 5% in DW):	6.0 to 6.5
Boiling point/Boiling range:	≥ 212°F (100°C)
Freeze Point:	Not Determined
Flash Point:	≥ 250°F (PMCC)
Vapor Pressure (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Solubility in Water:	Soluble
Specific Gravity (H_2O=1 @ 4°C):	1.13 – 1.19 g/mL @ 68°F (20°C)
Evaporation Rate (NA=1):	Not Determined
Percent Volatile by Volume:	Not Determined

Section 10 – Stability and Reactivity

Chemical Stability:	Stable
Materials to Avoid:	Strong oxidizers
Hazardous Decomposition or Byproducts:	Thermal decomposition or combustion (burning) can produce oxides of carbon
Hazardous Polymerization:	None Known

Section 11- Toxicological Information

Toxicity Data:*

Acute Eye Irritation: may cause irritation
Skin Sensitization: non-sensitizer
Acute Dermal Effects: LD_{50} (Rat) >5050 mg/kg
Acute Dermal Irritation: may cause irritation
Acute Oral Effects: LD_{50} (Rat) >5050 mg/kg
Acute Inhalation Effects: LC_{50} (Rat) >2.08 mg/L
Mutagenicity: Not known
Teratogenicity: Not known

*See NIOSH, RTECS on listed ingredients for additional toxicity data.

Section 12 – Ecological Information

Ecotoxicity: This product is a liquid fertilizer. Large spills could possibly damage vegetation. Contamination of waterways could possibly cause fish kills. Prevent spread and runoff into drains, storm sewers, and ditches that lead to waterways.
Aquatic Toxicity: Not known
Environmental Fate: Not known

Section 13 – Disposal Considerations

Waste Disposal Method: Follow applicable local, state and federal regulations

Section 14 – Transport Information

DOT (Department of Transportation)
Proper Shipping Name: Not Regulated
Hazard Class: N/A
UN/NA Number: N/A
Packaging Group: N/A
Label Requirements: N/A
Reportable Quantity (RQ): None

Section 15 – Regulatory Information

Symbol(s)	None
R Phrase(s)	None
S Phrase(s)	None
Classification	Substances not included in the list of DANGEROUS SUBSTANCES (ANNEX VI OF DIRECTIVE N° 1272/2008) Substances not included in the list of DANGEROUS SUBSTANCES (ANNEX I OF DIRECTIVE 67/548 EEC)

Section 16 – Other Information

Preparation Date: 11/22/11
Prepared By: Miller Chemical Compliance Officer
Revision Date:
Revision Notes:
NOTICE TO READER: THE INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET ("MSDS") RELATES ONLY TO THE SPECIFIC PRODUCT(S) DESIGNATED HEREIN (THE "PRODUCT"). THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CURRENT AND CORRECT AS OF THE DATE OF THIS MSDS, AND OBTAINED FROM SOURCES THAT ARE BELIEVED TO BE RELIABLE. HOWEVER, THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, REPRESENTATIONS OR LICENSE OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO ACCURACY, CORRECTNESS, OR COMPLETENESS, AND NEITHER MILLER CHEMICAL AND FERTILIZER CORPORATION. NOR ITS MARKETING AFFILIATES (EACH, A "SELLER") ASSUME ANY LEGAL RESPONSIBILITY FOR THE USE OR RELIANCE UPON SAME.