EARTH SCIENCE™
GROWTH ESSENTIALS

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **IronPRO**
Formula: Gypsum + Iron Oxide + Urea + Potassium Chloride + Calcium Lignosulfonate + Polymer Coated Urea

CAS No.: N/A
Recommended Use: Fertilizer; Soil Amendment

Company Identification: **Skyline Encap Holdings, LLC**
320 N. Broadway, Suite 320
Green Bay, WI 54303
Phone: (877) 405-5050

2. HAZARDS IDENTIFICATION

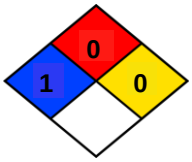
HMIS Classification

Health Hazard:	1
Chronic Health Hazard:	-
Flammability:	0
Physical Hazards:	0
Personal Protection:	E

(Safety glasses, gloves, and dust respirator)

NFPA Rating

Health Hazard:	1
Fire:	0
Reactivity Hazard:	0
Special Hazard:	None



GHS Labeling
Symbol: Exclamation mark
Signal Word: Warning

Hazard Statements:

H303	May be harmful if swallowed
H315	Causes skin irritation
H320	Causes eye irritation
H335	May cause respiratory irritation

GHS Hazard Categories

Oral toxicity hazard	Category 5
Skin irritation	Category 2
Eye irritation	Category 2B
Respiratory irritation	Category 3

Precautionary Statements:

P 261	Avoid breathing dust
P 102	Keep out of the reach of children

Hazards Not Otherwise Classified: Unknown

OSHA Hazards
No known OSHA hazards

Target Organs
Skin, eyes, and respiratory system.

Potential Immediate Health Effects

Inhalation: May cause respiratory tract irritation. Coughing, sneezing, or shortness of breath may occur following exposures in excess of exposure limits.
Skin: May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation with accompanying salivation, pain, nausea, vomiting, and diarrhea. Intestinal obstruction may occur if the material hardens. If large amounts are ingested, may cause cramps, tingling in hands and feet, weak pulse, and circulatory disturbances.

3. COMPOSITION

Chemical Identity:	Calcium Sulfate Dihydrite - $CaSO_4.2H_2O$	55.3%
Common Name:	Gypsum	
CAS No.:	10101-41-4	
Chemical Identity:	Iron Oxide - Fe_3O_4	34.0%
Common Name:	Iron Oxide, Magnetite	
CAS No.:	1317-61-9	
Chemical Identity:	Calcium Lignosulfonate	6.0%
Common Name:	Calcium Lignosulfonate	
CAS No.:	8061-52-7	
Chemical Identity:	Potassium Chloride - KCl	2.0%
Common Name:	Potash, Potassium Chloride	
CAS No.:	7447-40-7	
Chemical Identity:	Urea - $CO(NH_2)_2$	1.5%
Common Name:	Urea	
CAS No.:	57-13-6	
Chemical Identity:	Polymer Coated Urea	1.2%
Common Name:	Urea	
CAS No.:	57-13-6	

4. FIRST AID MEASURES

EYE:
Symptoms: May cause eye irritation.
Irrigate immediately. If this product contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Remove contact lenses. Get medical attention if needed.

SKIN:
Symptoms: May cause skin irritation.
Wash skin immediately rinse skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Get medical attention if needed.

INHALATION:
Symptoms: May cause respiratory tract irritation. Coughing, sneezing, or shortness of breath may occur following exposures in excess of exposure limits.
Fresh air. If a person breathes in large amounts of this product, move to fresh air at once. If not breathing, give artificial respiration. Get medical attention if needed.

INGESTION:
Symptoms: May be harmful if swallowed. May cause gastrointestinal tract irritation with accompanying salivation, pain, nausea, vomiting, and diarrhea. Intestinal obstruction may occur if the material hardens. If large amounts are ingested, may cause cramps, tingling in hands and feet, weak pulse, and circulatory disturbances.

Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. If conscious, have person drink water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if needed.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
A fine water spray, fog, CO_2 or dry chemical.

Unsuitable Extinguishing Media
None known.

Special Protective Equipment for Fire-Fighters
Wear full protective clothing and self-contained breathing apparatus. Note: Aqueous solutions or powders may render surfaces slippery.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Remove sources of ignition if this material is stored or handled in a dry state.

Environmental Precautions
Prevent product from entering drains.

Methods and Materials for Containment and Clean-up
Sweep spilled substance into containers; avoid generating dust. Reuse if not contaminated.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Eating, drinking, and smoking should be prohibited in areas where this material is handled or stored. Do not ingest and avoid contact with skin and eyes. Avoid breathing in dust. Wear appropriate respirator when ventilation is inadequate.

Recommended Conditions for Storage
Store in a cool, dry, well ventilated location. Do not freeze. Do not store near incompatible materials. Keep container closed when not in use. Avoid contact with aluminum or carbon steel to minimize corrosion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

	CAS No.	ACGIH TLV	OSHA/PEL
Calcium Sulfate Dihydrite	10101-41-4	10 mg/m^3	15 mg/m^3
Iron Oxide - Fe_3O_4	1317-61-9	10 mg/m^3	5 mg/m^3 (Resp.)
Calcium Lignosulfonate	8061-52-7	unknown	unknown
Potassium Chloride	7447-40-7	10 mg/m^3	unknown
Urea	57-13-6	unknown	unknown

Engineering Controls
Local exhaust ventilation recommended. Running water should be available in case material gets in eyes. 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.

Personal Protective Equipment

Respiratory Protection
A NIOSH (US) or CEN (EU) approved particulate respirator is recommended where total dust concentration exceeds 10 mg/m^3. Avoid breathing dust.

Hand Protection
Gloves are recommended.

Skin and Body Protection
Long sleeves or lab coat and long pants are recommended.

Eye Protection
NIOSH (US) or CEN (EU) approved safety glasses with side shields, goggles, or face shield.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Mixture of black, dark grey, and white granules
Odor:	Slight mineral and ammoniacal odor
Odor threshold:	Unknown
pH:	Unknown
Melting Point:	Unknown
Freezing Point:	Unknown
Evaporation Rate:	0
Flammability:	Not Flammable
Explosion Limits:	Unknown
Vapor Pressure:	N/A
Vapor Density:	N/A
Specific Gravity:	Unknown
Solubility in Water:	Unknown
Partition coefficient:	Unknown
Auto-ignition temp.:	Unknown
Decomposition temp.:	Unknown
Viscosity:	N/A
Other:	Unknown

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage conditions. Avoid excess sources of ignition, heat, and incompatible materials.

Conditions to Avoid: Incompatible with aluminum (at high temperatures), diazomethane, strong acids, hot nitric acid, and organic solvents. Reactive with halogens. Reactive with oxidizing agents, reducing agents, acids, alkalis, moisture. Avoid heat, sparks, open flame, static electricity, or any other potential ignition source.

Hazardous Decomposition Products: Contact with strong acid may produce hydrogen chlorine gas. Contact with hot nitric acid may produce toxic nitrosyl chloride. Thermal decomposition may produce: chlorine gas, as well as oxides of calcium and sulfur. Slow hydolysis may produce acids corrosive to metals.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure
Eyes, skin, ingestion, and inhalation.

Potential Health Effects

Inhalation: May cause respiratory tract irritation. Coughing, sneezing, or shortness of breath may occur following exposures in excess of exposure limits. Reactions of tracheal and bronchial membranes are possible with acute exposure.
Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation with accompanying salivation, pain, nausea, vomiting, and diarrhea. Intestinal obstruction may occur if the material hardens. If large amounts are ingested, may cause cramps, tingling in hands and feet, weak pulse, and circulatory disturbances.
Skin: May cause skin irritation.
Eyes: May cause eye irritation.

Acute Toxicity
LD_{50} Oral - rat 1,500-2,600 mg/kg (KCl)
LD_{50} Oral - cattle 510 mg/kg (urea)
LD_{50} Oral - rat 14,300 mg/kg (urea)
LD_{50} Oral - mouse 11,500 mg/kg (urea)

Reproductive Toxicity
No data available.

Germ Cell Mutagenicity
No data available.

Specific target organ toxicity - single exposure
Adverse health effects are not expected under normal use.

Specific target organ toxicity - repeated exposure
No data available.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC. IARC = International Agency for Research on Cancer
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH. ACGIH = American Conference of Industrial Hygienists
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated carcinogen by NTP. NTP = National Toxicology Program
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by OSHA. OSHA = Occupational Safety and Health Administration

12. ECOLOGICAL INFORMATION

Toxicity
Fish (*Lepomis macrochirus*) - LC_{50}/96-hour = 2,010 mg/L (KCl)
Fish (*Barillius barna*) - LC_{50}/96-hour > 9,110 mg/L (urea)
Birds (Pidgeons) - LDLo = 16,000 mg/kg subcutaneous (urea)
Aquatic invertebrates (*Physa heterostropha*) - LC_{50}/96-hr = 940 mg/L (KCl)
Aquatic invertebrates (*Daphnia*) - EC_{50}/24-hr > 10,000 mg/L (urea)
Aquatic plants (*(Nitschia linearis (diatom)*) - TLm/5 days-120 hr = 1,337 ppm (KCl)
Aquatic plants (*Scendesmus quadricauda*) - TT/192 hr > 10,000 mg/L (urea)
Aquatic plants (*Chlorella vulgaris*) - NOEC/3-4 months = 600 mg/L (KCl), LOEL = 700 mg/L (KCl)

Persistence and Degradability
Inherently biodegradable.

PBT and vPvB Assessment
No data available.

Mobility
Water contaminating.

No data available.

Other Adverse Effects
No data available.

13. DISPOSAL CONSIDERATIONS

May be disposed of as an inert solid in sanitary landfill or by other procedures in accordance with all federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (US)
This material is not regulated by the DOT.

IMDG
This material is not regulated by the IMDG.

IATA
This material is not regulated by IATA.

15. REGULATORY INFORMATION

OSHA Hazards
None of the chemicals in this product are listed as highly hazardous by OSHA.

DSL Status
All components with CAS numbers are specified on the Canadian Domestic Substance List (DSL).

SARA 302 Compounds
No chemicals in this material are subject to SARA Title III, Section 302 reporting.

SARA 313 Compounds
No chemicals in this material are subject to SARA Title III, Section 313 reporting.

SARA 311/312 Hazards
No chemicals in this material are subject to Section 311/312 of SARA.

Massachusetts Right To Know
Gypsum is listed by the Massachusetts Right to Know Act.

Pennsylvania Right To Know
Gypsum and urea are listed by the Pennsylvania Right to Know Act.

New Jersey Right To Know
Gypsum is listed by the New Jersey Right to Know Act.

California Proposition 65
No chemicals in this material are known to cause cancer, birth defects, or any other reproductive harm according to the State of California.

16. OTHER INFORMATION

No data is available, per 29 CFR 1910.1200(d)(b); health hazards are based upon all of the components which make up the mixture.

The above information is believed to be correct, but is not purported to be all-inclusive and should only be used as a guide. Because data, safety standards, and regulatory inputs are subject to change, no warranty, guarantee, or representation with respect to the completeness or continuing accuracy of the information contained in this document is made. The user of this product must decide what safety measures are necessary to safely use this product; the conditions of handling and use, or misuse, are beyond the control of Encap, LLC. The user is also responsible to determine its environmental regulatory compliance obligations under any applicable federal or state laws.

MSDS Preparation History

Original	Preparer
Jan-22	Skyline Encap Holdings, LLC Staff