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 + Anionic Polyacrylamide + Humik WSP

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**

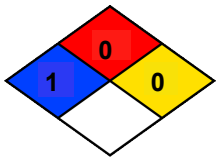
| | |
|---|---|
| Health Hazard: | 1 |
| Chronic Health Hazard: | - |
| Flammability: | 0 |
| Physical Hazards: | 0 |
| Personal Protection: | E |

(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:**

| | | GHS Hazard Categories | |
|---|---|---|---|
| H303 | May be harmful if swallowed | Oral toxicity hazard | Category 5 |
| H315 | Causes skin irritation | Skin irritation | Category 2 |
| H320 | Causes eye irritation | Eye irritation | Category 2B |
| H335 | May cause respiratory irritation | 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 - $CaSO_4.2H_2O$ | 50.30% |
| Common Name: | Gypsum | |
| CAS No.: | 10101-41-4 | |
| Chemical Identity: | Iron Oxide - $Fe_3O_4$ | 42.00% |
| Common Name: | Iron Oxide, Magnetite | |
| CAS No.: | 1317-61-9 | |
| Chemical Identity: | Calcium Lignosulfonate | 2.50% |
| Common Name: | Calcium Lignosulfonate | |
| CAS No.: | 8061-52-7 | |
| Chemical Identity: | Potassium Chloride - KCl | 1.97% |
| Common Name: | Potash, Potassium Chloride | |
| CAS No.: | 7447-40-7 | |
| Chemical Identity: | Urea - $CO(NH_2)_2$ | 1.55% |
| Common Name: | Urea | |
| CAS No.: | 57-13-6 | |
| Chemical Identity: | Polymer Coated Urea | 1.18% |
| Common Name: | Urea | |
| CAS No.: | 57-13-6 | |
| Chemical Identity: | Anionic Polyacrylamide | 0.50% |
| Common Name: | PAM | |
| CAS No.: | 9003-05-08 | |

## 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**

| Component | 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 |
| Polyacrylamyde | 9003-05-08 | 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), 2,500 mg/kg (anionic polyacrylamide)
$LD_{50}$ Oral - rat 14,300 mg/kg (urea), 20,000 mg/kg (anionic polyacrylamide)
$LD_{50}$ Inhalation - rat 20 mg/kg
$LD_{50}$ Oral - cattle 510 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 |