EARTH SCIENCE™ GROWTH ESSENTIALS

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Fast Acting Sulfur**
Formula: Calcium Sulfate Dihydrite + Sulfur + Bentonite + Guar Gum + Corn Starch + Anionic Polyacrylamide
CAS No.: N/A
Recommended Use: Fertilizer

Company Identification: **Encap, LLC**
320 N Broadway, Suite 340
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

HEALTH	1
FIRE	0
REACTIVITY	0
PPE	E

(Safety glasses, gloves, and dust respirator)

NFPA Rating

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

Physical Hazards:
Not classified

Health Hazards:
May cause temporary skin (category 2), eye (category 2B), or respiratory irritation
May be harmful if swallowed

GHS Labeling
Symbol: Exclamation mark
Signal Word: Warning

Hazard Statements:

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

GHS Hazard Categories

Skin irritation	Category 2
Eye irritation	Category 2B

Precautionary Statements: P 261 Avoid breathing dust

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, disorder/damage. Intestinal obstruction may occur if the material hardens.

3. COMPOSITION

Chemical Identity:	Calcium sulfate dihydrate	67.0%
Common Name:	Gypsum	
CAS No.:	10101-41-4	
Chemical Identity:	Sulfur	28.7%
Common Name:	Sulfur	
CAS No.:	7704-34-9	
Chemical Identity:	Bentonite Clay	3.0%
Common Name:	Bentonite Clay	
CAS No.:	1302-78-9	
Chemical Identity:	Guar Gum	0.3%
Common Name:	Guar Gum	
CAS No.:	9000-30-0	
Chemical Identity:	Corn Starch	0.30%
Common Name:	Corn Starch	
CAS No.:	9005-25-8	
Chemical Identity:	Anionic Polyacrylamide	0.7%
Common Name:	Anionic Polyacrylamide	
CAS No.:	9003-05-8	

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. 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. Seek medical attention if needed.

INGESTION:
Symptoms: May be harmful if swallowed. May cause gastrointestinal tract irritation, disorder/damage. Intestinal obstruction may occur if the material hardens.
Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Seek medical attention if symptoms appear.

5. FIRE-FIGHTING MEASURES

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

Unsuitable Extinguishing Media
Hoses and extinguishers with pressure streams should be avoided where solid sulfur is dusty or where it may create a further hazard by raising more dust clouds.

Special Protective Equipment for Fire-Fighters
Self-contained breathing apparatus and full protective clothing. Masks approved for use in acid-gas atmosphere should be used. Fumes from unprotected sulfur fires should be avoided by approaching from upwind side. 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.

Environmental Precautions
Prevent product from entering drains.

Methods and Materials for Containment and Clean-up
Do not flush with water. Sweep spilled substance into containers; avoid generating dust. Reuse if not contaminated. After cleaning flush remaining traces with water.

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
Keep away from moisture. Solid becomes corrosive to metals when stored wet. Store in a cool, dry, well ventilated location. Do not store near aluminum (at high temperatures), diazomethane, oxidizing agents or other incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

	CAS No.	ACGIH TLV	OSHA/PEL
Calcium sulfate dihydrate (gypsum)	10101-41-4	10 mg/m_3	15 mg/m_3 (total), 5mg/m_3 (respirable)
Sulfur Compounds	7704-34-9	none	none
Bentonite Clay	1302-78-9	none	none
Anionic Polyacrylamide	9003-05-8	none	none
Lignosulfonate	8061-52-7	none	none
Corn Starch	9005-25-8	10 mg/m_3	none
Guar Gum	9000-30-0	none	none

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. Wash clothing before reusing.

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

None required for normal use. If prolonged or repeated use irritates skin, use nitrile gloves.

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 are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Material:	Fertilizer
Appearance:	Yellowish and tan granules
Odor:	Mineral
Odor threshold:	Unknown
pH:	Not Available
Melting Point:	119°C (246°F) - Sulfur + Bentonite Clay
Freezing Point:	Unknown
Evaporation Rate:	Not Applicable
Flammability:	Not Flammable
Explosion Limits:	LEL = 35 g/m^3 - Sulfur + Bentonite Clay
Vapor Pressure:	Unknown
Vapor Density:	> 1 - Sulfur + Bentonite Clay
Specific Gravity:	~2.3 g/ml
Solubility in Water:	Slightly soluble
Partition coefficient:	Not Applicable
Auto-ignition temp.:	188°C (370°F) - Sulfur + Bentonite Clay
Decomposition temp.:	Unknown
Viscosity:	Not Applicable
Other:	Boiling Point = 444°C (832°F) - Sulfur + Bentonite Clay

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage conditions. Avoid excess sources of ignition, heat, and incompatible materials. Dust suspended in air is readily ignited.

Conditions to Avoid: Oxidizing agents, aluminum (at high temperatures), diazomethane, heat, sparks, open flame, static electricity, or any other potential ignition source.

Hazardous Decomposition Products:

Thermal decomposition may produce: sulfur dioxide, calcium oxide, nitrogen oxides, carbon oxides, sulfur oxides, and hydrogen cyanide.

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.
Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation, disorder/damage. Intestinal obstruction may occur if the material hardens.
Skin: May cause skin irritation.
Eyes: May cause eye irritation.

Acute Toxicity
No data available.

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
Not applicable.

Mobility
Water contaminating.

Persistence and Degradability
No data available.

PBT and vPvB Assessment
Not applicable.

Bioaccumulative Potential
Not applicable.

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. For landfill disposal, mix with limestone three times the weight of sulfur.

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
Sulfur is on the Canadian Domestic Substance List (DSL) list.

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 the reporting requirements of Section 313 of SARA.

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

Massachusetts Right To Know
Gypsum and sulfur are listed by the Massachusetts Right to Know Act.

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

New Jersey Right To Know
Gypsum and sulfur are listed by the New Jersey Right to Know Act.

Rhode Island Right To Know
Gypsum and sulfur are listed by the Rhode Island Right to Know Act.

California Proposition 65
This product contains a chemical known to the State of California to cause cancer: Residual Acrylamide.

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
Jul-19	Encap LLC staff

Updates or Revisions

Update (U) or Revision (R)	Update or Revision Number	Date	Preparer
R	1	10/25/2019	Encap LLC staff