



## 1. IDENTIFICATION

Product Name: **F-227GC Granular Fertilizer Micronutrient**

Product Type: Solid

Recommended /Restrictions of use: Fertilizer Micronutrient Additive

Supplier's Details: Manufactured By:  
Frit Industries Inc.  
PO Box 1589  
Ozark, AL 36361-1589  
334-774-2515

Emergency contact number:  
Chemical Emergencies - 800-535-5053  
Medical/Handling Emergencies - INFOTRAC  
800-535-5053 USA 352-323-3500 International

## 2. HAZARDS IDENTIFICATION

Hazard Classification: This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

Acute toxicity (oral) – Category 4

Signal word: Warning

Hazard statements: Harmful if swallowed (H302)

Hazard pictograms:



Precautionary statements:

Prevention Keep out of reach of children.  
Wash skin thoroughly after handling.  
Do not eat, drink, or smoke when using product.

Response IF SWALLOWED: Call a doctor if you feel unwell.  
Rinse mouth.

Storage NA.

Disposal Dispose of contents/container to an approved waste disposal.

Other hazards: None identified

Other hazards not contributing to the classification: Spill area may be slippery.

Unknown components with acute toxicity: None.



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture

<u>Chemical name/component</u>	<u>CAS#</u>	<u>Concentration</u>
Iron Oxide	1309-37-1	> 50 - < 70%
Iron Sulfate	7720-78-7	> 5 - < 15%
Gypsum	13397-24-5	> 5 - < 15%
Manganese Oxide	1317-35-7	> 0.1 - < 1%
Manganese Sulfate	7785-87-7	> 0.1 - < 1%
Zinc Oxide	1314-13-2	> 1 - < 5%
Zinc Sulfate	7733-02-0	> 1 - < 3%
Silica Dioxide	7631-86-9	> 1 - < 2%

### 4. FIRST-AID MEASURES

Description of first aid measures:

Eye Contact - If in eyes: Flush with water for 15 minutes. Call a doctor for treatment if irritation persists.  
Skin Contact - If on skin: Wash thoroughly with soap and water. Launder clothing before reuse.  
Inhalation - If inhaled: Remove affected person from source of exposure. Call 911 if breathing is difficult.  
Ingestion - If ingested: Do not induce vomiting. Get medical attention. Have the product label with you when calling a doctor or going for treatment.

Indication of any immediate medical attention and special treatment needed: No additional information available.

### 5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Water fog, foam or spray, dry chemical, carbon dioxide, sand  
Unsuitable extinguishing media: None  
Special hazards arising from the substance or mixture: Material is not combustible. Product packaging is not self-ignitable, but may support combustion.

Advice for firefighters:

Firefighting instructions: Use extinguishing media appropriate for the surrounding materials.  
Protection during firefighting: Wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.  
Other information: Do not allow run-off from fire-fighting to enter drains or water courses.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Use protective equipment to prevent contact with skin and eyes or inhalation of dust.  
Use site specific emergency procedures if product is released. Prevent entry to sewers and public surface waters per site specific containment procedures.

Methods and material for containment and cleaning up:

Use mechanical means. Store material in suitable containers for recycle or disposal.  
Minimize dust generation.

### 7. HANDLING AND STORAGE

Precaution for safe handling: Avoid contact with skin and eyes. After handling, wash hands thoroughly with soap and water. Avoid generating and breathing dust. Wash before eating and drinking.

Safe Storage conditions: Store in a dry, cool, and well-ventilated area. Protect from weather.

Incompatible materials: Strong alkaline or acid compounds.



## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure limits are listed below, if they exist:

Component	Regulation	Type of listing	Value/Notation
Dust – inhalable particles	OSHA / ACGIH	TWA	15 mg/ m <sup>3</sup> / 10 mg/ m <sup>3</sup>
Dust – respirable particles	OSHA / ACGIH	TWA	5 mg/ m <sup>3</sup> / 3 mg/ m <sup>3</sup>
Zinc compounds	OSHA/ ACGIH	TWA	15 mg/ m <sup>3</sup> / 10 mg/ m <sup>3</sup>
Iron Oxide	OSHA / ACGIH / NIOSH	TWA	10 mg/ m <sup>3</sup> / 5 mg/ m <sup>3</sup> / 5 mg/ m <sup>3</sup>
Gypsum (total)	OSHA / NIOSH	TWA	15 mg/ m <sup>3</sup> / 10 mg/ m <sup>3</sup>
Gypsum (respirable)	OSHA / NIOSH	TWA	5 mg/ m <sup>3</sup> / 5 mg/ m <sup>3</sup>
Manganese compounds	ACGIH / NIOSH	TWA	2 mg/ m <sup>3</sup> / 1 mg/ m <sup>3</sup>
Silicon Dioxide (total)	OSHA / NIOSH	TWA	15 mg/m <sup>3</sup> / 10 mg/m <sup>3</sup>
Silicon Dioxide (respirable)	OSHA / NIOSH	TWA	5 mg/m <sup>3</sup> / 5 mg/m <sup>3</sup>

Engineering controls: Use adequate ventilation to prevent exposure.

Personal protective measures:

Hand protection: Wear suitable protective gloves to prevent direct exposure.

Eye protection: Safety glasses with side shields or tight fitting goggles.

Skin and body protection: Wear long sleeved clothing or other suitable clothing to prevent skin exposure.

Respiratory protection: Where dust is generated and appropriate engineering controls cannot maintain acceptable levels, use appropriate respiratory protection equipment to prevent inhalation of materials.

Special requirements for PPE, protective clothing or respirators: No specialty PPE requirements beyond those previously identified.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid	Vapor pressure:	NA
Color:	Dark Brown	Vapor density:	NA
Odor:	Slight metallic	Relative density	110 lbs/ft <sup>3</sup>
Odor threshold:	NA	Solubility:	Partially soluble in water
pH:	5-6.5	Partition coefficient:	NA
Melting point/freezing point:	NA	Auto ignition temp:	NA
Initial boiling point/range:	NA	Decomposition temp:	NA
Flashpoint:	NA	Viscosity:	NA
Evaporation rate:	NA		
Flammability (solid gas):	NA		
Upper/lower flammability or explosive limits:	NA		

Other information: No additional information.



## 10. STABILITY AND REACTIVITY

Reactivity: This product is stable under normal conditions of use, storage and transport.

Chemical stability: This product is stable at ambient temperatures and atmospheric pressures.

Other:

Hazardous reactions: None determined.

Conditions to avoid: Avoid high temperatures. Prevent contact with moisture or incompatible materials.

Incompatible materials: Strong alkaline or acid compounds.

Hazardous decomposition products: Metal and sulfur fumes when excessive heat is applied.

## 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure: Inhalation, Ingestion, Skin contact, Eye contact

Symptoms/injuries after inhalation: High concentrations of dust may irritate the throat and respiratory system and cause coughing.

Symptoms/injuries after Ingestion: Harmful if swallowed.

Symptoms/injuries after skin contact: Prolonged contact may cause skin irritation

Symptoms/injuries after eye contact: Dust may cause eye irritation.

Acute toxicity: Mixture based on components' toxicity.

Reproductive toxicity: No relevant data found.

Specific Target Organ Toxicity-S E: No relevant data found.

Specific Target Organ Toxicity-R E: No relevant data found.

Carcinogenicity: Not classified.

NTP (National Toxicology Program): Not classified.

IARC (International Agency for Research on Cancer): Not classified.

ACGIH (American Conference of Governmental Industrial Hygienists): Not classified.

## 12. ECOLOGICAL INFORMATION

Toxicity: No testing data available.

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential: No data is available.

Mobility in soil: No data is available.

Other adverse effects: No further relevant information available.

## 13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Recommend recycling excess product if at all possible. Avoid sewage and landfill disposal. Place contaminated material in suitable, labeled containers for disposal. See section 8 for exposure control information.

## 14. TRANSPORT INFORMATION

**DOT:** Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.



## **15. REGULATORY INFORMATION**

Ingredients listed on TSCA inventory: Yes  
CERCLA Section 103 Hazardous Substances: Manganese Compounds, Zinc Compounds, Ferrous Sulfate  
EPCRA Section 311/312 Hazard Categories: Acute Toxicity  
EPCRA Section 313 Toxic Release Inventory: Manganese Compounds; Zinc Compounds  
California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):  
This product contains listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.  
Micronutrient Approvals / Registrations: California Department of Food and Agriculture (CDFA):  
Company Registration# 11554

## **16. OTHER INFORMATION**

Date of preparation/issue date: September 11, 2018  
Version: 1.2

Disclaimer: The information in this Safety Data Sheet should be provided to all who will use, handle store, transport or otherwise be exposed to this product. All information concerning this product and/or all suggestions for handling and use contained herein are offered in good faith and are believed to be reliable as of the date of publication. Frit Industries, however, makes no warranty as to the accuracy of and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Buyer shall determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. The information contained herein supersedes all previously issued bulletins on the subject matter covered.