



## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** FRIT ZINC 25%  
**Chemical Name:** Inorganic Salts  
**Guaranteed Analysis** 25.0% Zn  
**CAS Registry Number:** Proprietary  
**Product Use:** Fertilizer – Dry. For Foliar or Soil Application  
**Manufacturer/Supplier:** FRIT INDUSTRIES, Box 1589, Ozark, AL 36361-1589

**Emergency Phone #s:** FOR CHEMICAL EMERGENCY  
(Spill, Leak, Fire, Exposure or Accident) 800-457-4280  
FOR MEDICAL/HANDLING EMERGENCIES  
800-457-4280

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<b>Revision Date:</b>	November 1, 2012	<b>Changes:</b>	N/A

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Ingredients (See Section 8 for Exposure Limits)</b>	<b>% (w/w)</b>	<b>CAS Number</b>	<b>Air Threshold Limit Value</b>
Citric Acid	23-27%	77-92-9	15.00mg/m <sup>3</sup>
Zinc Sulfate	73-77%	7733-02-0	10.00mgZn/m <sup>3</sup>



### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW** Off White Powder. Not flammable or explosive, but will decompose in extreme heat to produce toxic fumes of oxides of sulfur, metal fume. This product is relatively non-toxic to humans and poses little immediate hazard to emergency response personnel, but is soluble in water and can pose a threat to watercourses.

**CAUTION! MAY CAUSE EYE, SKIN, AND RESPIRATORY IRRITATION.**

- Avoid contact with skin and clothing. Wash after handling.
- Wear appropriate personal protective equipment. (See Section 8 for additional information)

**Appearance and odor:** Off White Powder, Slight metallic odor

**POTENTIAL HEALTH EFFECTS** (*See Section 11 for additional information*)

Primary Route (s) of Exposure: Dermal Contact, Eye Contact, Inhalation, Ingestion

Acute Exposure:

- Inhalation No known significant effects or critical hazards
- Eye Contact Irritating to eyes
- Skin Contact Practically non-toxic in contact with skin. Irritation to skin.
- Ingestion Practically non-toxic if swallowed.

Carcinogenicity: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Chronic Effect/Developmental Repeated skin exposure can produce local skin destruction or dermatitis. Repeated exposure to the eyes to a low level of dust can produce eye irritation.

Medical Conditions Aggravated: Skin conditions, Eye conditions, Gastrointestinal condition

**POTENTIAL ENVIRONMENTAL EFFECTS** (*See Section 12 for additional information*)

This material is a water pollutant. Do Not let spilled or leaking material enter waterways.

### 4. FIRST AID MEASURES

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration. Get medical attention.

**Eye Contact:** Check for and remove any contact lenses. Rinse immediately with plenty of water. Get medical attention.

**Skin Contact:** Wash with soap and water. Get medical attention if symptoms occur.

**Ingestion:** Do Not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.



**5. FIRE FIGHTING MEASURES**

**Conditions of Flammability:** Non Flammable  
**Flash Point (Method):** N/A  
**Auto-Ignition Temperature:** N/A  
**Extinguishing Media:** This product is not flammable or combustible. If involved in a fire, use water fog or spray, dry chemical, foam or carbon dioxide extinguishing agents.  
**Fire Fighting Procedures:** Wear self-contained breathing apparatus, approved by NIOSH. Do not wash material into any streams, waterways, drainage ditches, or storm sewers, etc. Impound liquids used in firefighting to prevent entry into streams, ditches, sewers, etc.  
**Fire & Explosion Hazards:** Not flammable or explosive.  
**Hazardous Combustion Products:** Oxides of Sulfur, Metal Fume.

	Health:	Fire:	Reactivity:	Other:
NFPA Hazard Rating	1	0	0	None
<i>[ 0 – Minimal      1 – Slight      2 – Moderate      3 – High      4 – Extreme ]</i>				

**6. ACCIDENTAL RELEASE MEASURES**

**Spill/Leak:** Safely stop source of spill. Restrict non-essential personnel from area. All personnel involved in spill clean up should avoid skin and eye contact by wearing appropriate personal protective equipment.  
**Cleanup:** Sweep up spilled solid material, being careful not to create dust. Return sweepings to stock or, if contaminated, place into a chemical waste container for disposal according to local, state, and/or federal regulations.

**7. HANDLING AND STORAGE**

Store in cool, dry, well-ventilated area away from incompatible substances. Protect from physical damage. Avoid generating dust and the release of dust into the workplace. Refrain from eating, drinking, or smoking in work areas.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Applicable Exposure Limits:

Chemical Name	OSHA – PELS (mg / m <sup>3</sup> )		ACGIH – TLVs (mg / m <sup>3</sup> )		NIOSH – RELS (mg / m <sup>3</sup> )	
	TWA	STEL/CEIL (C)	TWA	STEL/CEIL (C)	TWA	STEL/CEIL (C)
Citric Acid	N/D	N/D	N/D	N/D	N/D	N/D
Zinc Compounds	15 Total 5 Respirable	N/D	2	10	5	15

[Ref: ACGIH Guide to Occupational Exposure Values, 2006 Edition]

#### Legend:

CEIL:	Ceiling Exposure Limit	PEL:	Permissible Exposure Limit
STEL:	Short Term Exposure Limit	REL:	Recommended Exposure Limit
N/D:	Not Determined	TLV:	Threshold Limit Value
ACGIH:	American Conference of Governmental Industrial Hygienists	TWA:	Time-Weighted Average
NIOSH:	National Institute for Occupational Safety and Health	WEEL:	Workplace Environmental Exposure Level
OSHA:	Occupational Safety and Health Administration		

### Personal Protective Equipment (PPE)

- **Protective Clothing:** The hazard potential of this material is low. Where there is large-scale use of this material and significant potential for worker contact, gloves and long sleeved work clothes or disposable coveralls may be necessary. Eye protection should be worn where dust is generated and there is a potential that eye contact may occur.
- **Ventilation:** Use adequate local or general ventilation where necessary to maintain the concentrations of dust well below the recommended occupational exposure limits for general Particulates. Not Otherwise Specified (PNOS).
- **Respirators:** Where dust is generated and cannot be controlled to within acceptable levels by engineering means, use appropriate NIOSH-approved respiratory protection equipment a 42CFR84 Class N, R or P-95 particulate filter cartridge.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance/Odor:	Solid, off white powder, slight metallic odor	
Boiling Point:	N/A	
Bulk Density:	60 lbs/cubic foot	
Cloud Point:	N/A	
Evaporation Rate (Butyl Acetate=1):	N/A	
Melting Point:	N/A	
Odor Threshold:	N/A	
pH:	6-7	
Partition Coefficient (n-octanol/water):	N/A	
Pour Point:	N/A	
Solubility in water:	100% Soluble in Water	
Solubility in other solvents:	N/A	
Specific Gravity (H <sub>2</sub> O = 1) :	1.0	
Vapor Density ( Air = 1):	N/A	
Viscosity:	N/A	
Volatiles (% by weight) :	N/A	
Other-Decomposition temperature	N/A	
Conditions of Flammability:	Non Flammable	
Flash Point (Method):	N/A	
Upper Flammable Limit (% by volume)	N/A	
Lower Flammable Limit (% by volume):	N/A	
Auto-Ignition Temperature	N/A	
<: less than	>: greater than	= : approximately

## 10. STABILITY AND REACTIVITY

Stability:	This product is stable at ambient temperatures and atmospheric pressures.
Incompatibilities/Conditions to avoid:	Avoid contact with strong alkaline or acid compounds.
Decomposition Products:	Oxides of Sulfur, Metal Fume.



## 11. TOXICOLOGICAL INFORMATION

### TOXICITY DATA

Ingredient Name	TEST	RESULT	ROUTE	SPECIES
Citric Acid	LD50	5040mg/kg	ORAL	MUS
Zinc Sulfate	LD50	221mg/kg	UNR	MAN
	LD50	1260mg/kg	ORL	RAT
	LD50	2200mg/kg	ORL	MUS
	LD50	200mg/kg	IPR	RAT

- GENERAL:** The form in which this material is sold is considered to be relatively non-toxic.
- SKIN/EYE:** Direct contact may cause local irritation, but is not expected to cause significant tissue damage.
- INHALATION:** Acute inhalation may result in irritation, but is not expected to cause significant harmful effects. Symptoms may include discomfort, coughing, sneezing, and shortness of breath.
- INGESTION:** Ingestion of large doses can irritate the stomach, resulting in abdominal pain, nausea, diarrhea, and vomiting.

## 12. ECOLOGICAL INFORMATION

- Ecotoxicity:** No data available on the mixture. Components within the mixture can be damaging to aquatic organisms.
- Environmental Fate:** Product is not expected to bio accumulate. Release of components in this mixture to the aquatic environment can cause algae growth which may increase turbidity and displace oxygen resulting in a hazard to fish or other marine organisms. Will disperse with the current. Release to watercourses may cause effects down stream from the point of release. Avoid spills or release to watercourse.



**13. DISPOSAL CONSIDERATIONS**

**Waste & Container Disposal:** Do not wash down drain. Put uncontaminated material back into process if at all possible. Place contaminated material in suitable, labeled containers for disposal. Dispose of waste material consistent with the requirements of waste disposal authorities.

**14. TRANSPORT INFORMATION**

<b>Shipping Information:</b>	Not regulated for transport
<b>Required Labels:</b>	N/A
<b>Environmentally Hazardous Substances [49 CFR 172.101, Appendix A]:</b>	N/A

**15. REGULATORY INFORMATION**

<b>Regulatory Lists:</b>		
Ingredients listed on TSCA inventory	Yes	
Hazardous work hazard communication standard	No	
CERCLA Section 103 Hazardous Substances	No	
EPCRA Section 302 Extremely Hazardous Substance	No	
EPCRA Section 311/312 Hazard Categories	No	
EPCRA Section 313 Toxic Release Inventory	No	

**16. OTHER INFORMATION**

<b>Prepared by:</b>	<b>FRIT INDUSTRIES, PO Box 1589, Ozark, AL 36361-1589 Ph: 334-774-2515</b>
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*The information in this Material 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. Nothing contained herein shall be construed as granting or extending any license under 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.*