

MATERIAL SAFETY DATA SHEET

GRANUSOL Fe 50%

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Section I: Product Information

Identity:	GRANUSOL FE 50%	CAS #:	Mixture-See Section II
Synonyms:	NO PRODUCT SYNONYMS	Product #:	3506-3514
Revision Date:	08/2006	MSDS#:	N/A

Section II: Hazardous Ingredients

<u>Chemical Name:</u>	<u>CAS #</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Percent</u>
Iron Oxide, Saccharated	8047-67-4	N/A	N/A	70-100
Quartz (SiO ₂)	14808-60-7	10/(% SiO ₂ +2)	0.05	1-3
Amorphous Silica	112926-00-8	80/(%SiO ₂)	10 T; 3-R	5-10

Section III: Physical/Chemical Characteristics

Bulk density:	98 lbs/ft ³	Freeze Point:	Solid at STP	% volatile by vol:	0% H ₂ O
Water solubility:	Slight	Melting Point:	>3002 °F	Vapor Density:	N/A
pH: (10% aqueous slurry)	N/A	Boiling Point:	N/A	Vapor Pressure:	N/A

Appearance and Odor: Available as dry, black, free-flowing granules less than 1/4 inch in size. Odorless.

Section IV: Fire and Explosion Hazard Data

Emergency Overview: Not a fire or spill hazard. Low toxicity; dry dust is a nuisance particulate. Generally, health effects are provided for exposure to dust that may be generated during product transfer and handling.

Flammable Properties: Material will not burn. No unusual fire or explosion hazards.

Extinguishing Media: Use extinguishing media appropriate to combustibles in the surrounding area.

Protection for Firefighters: Wet material should be kept out of eyes and off skin. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Material does not give off toxic fumes in a fire unless molten.

Section V: Reactivity Data

Stability: Stable under normal conditions of storage.

Conditions to Avoid: None under normal conditions.

Incompatibility (materials to avoid): Components in the product can react violently when mixed with hydrogen peroxide, ethylene oxide, and nitric acid. Violent reaction occurs when heated with powdered aluminum; calcium disilicide; magnesium; metal acetylides. Mixtures with aluminum and sulfur react violently if heated. Ignites on contact with hydrogen trisulfide.

Hazardous Decomposition or Byproducts: None under normal conditions.
Hazardous Polymerization: Will not occur.

Section VI: Health Hazard Data

Primary Route of Exposure:	Inhalation
Relevant Routes of Exposure:	<p>EYE CONTACT: Particulate may cause slight to moderate irritation. Abrasive action of dust particulate can damage eye.</p> <p>SKIN CONTACT: Prolonged or repeated contact may cause slight to moderate irritation.</p> <p>INHALATION: Overexposure by inhalation of airborne particulate, dust, or fumes is irritating to the nose, throat, and respiratory tract. Inhalation of excessive levels of dust or fumes may be harmful.</p> <p>INGESTION: Unlikely route of exposure; no hazard in normal industrial use. Small amounts (< tablespoonful) swallowed during normal handling operations are not likely to cause injury, however, swallowing larger amounts may cause injury. If ingested in sufficient quantity, may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain, and diarrhea.</p>
Acute and Chronic effects of Exposure:	Excessive, short-term exposure to airborne mineral dusts and particulate may cause upper respiratory and eye irritation. Excessive, long-term inhalation of airborne mineral dusts and particulate may contribute to the development of bronchitis, reduced breathing capacity, and may lead to the increased susceptibility to lung disease. Long-term exposure to high concentrations of dust and fume containing iron compounds is known to produce a condition known as siderosis. On X-rays it appears to be a benign pneumoconiosis and is not associated with pulmonary fibrosis or disability unless there is concurrent exposure to other fibrosis-producing materials such as silica. Chronic ingestion of excess levels of iron (<50-100 mg/day, as /Fe/) can result in pathological deposition of iron in the body tissues, the symptoms of which are fibrosis of the pancreas, diabetes, mellitus, and liver cirrhosis.
Signs and Symptoms of Exposure:	(Dust) tearing of eyes, burning sensation in the throat, cough, chest discomfort.
Aggravation of Pre-existing Conditions:	The excessive inhalation of mineral dust may aggravate pre-existing chronic lung conditions such as, but not limited to, bronchitis, emphysema, and asthma.
Reproductive Hazards:	Not a reproductive hazard.
Emergency and First Aid Procedures:	<p>EYE CONTACT: Flush eyes immediately with water for at least 15 minutes. Seek medical attention if irritation persists.</p> <p>SKIN CONTACT: Immediately wash affected area with mild soap and water to remove any dust adhering to the skin. Seek medical attention if irritation develops or persists.</p> <p>INHALATION: If exposed to excessive levels of dust or fumes, remove to fresh air and seek medical attention if cough or other symptoms develop. If not breathing, give artificial respiration or give oxygen by trained personnel, and get medical attention.</p> <p>IF INGESTED: Unlikely route of exposure. If ingested in sufficient quantity and victim is conscious, give 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention.</p>

Section VII: Precautions for Safe Handling and Use

STEPS TO BE TAKEN IN CASE

MATERIAL IS RELEASED OR SPILLED:

CONTAINMENT: Product is dry solid (granular or powder) and not readily soluble in water. However, prevent spilled product from entering streams, water bodies, and wastewater systems.

CLEANUP: Vacuum or sweep up dry material and place in a container for reuse. Avoid creating excessive airborne dust. Cleanup personnel need to wear approved respiratory protection (air-purifying or air-supply), gloves, long-sleeved clothing and goggles to prevent irritation from contact and inhalation.

EVACUATION: Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

POTENTIAL ENVIRONMENTAL EFFECTS: Derived from natural ores; no adverse environmental effects known. However, prevent spilled product from entering streams, water

bodies, and wastewater systems. This material is used as an agricultural product.

Waste Disposal Method:

COLLECTION: If possible, collect and reuse spilled product.

RCRA: This product, as manufactured, is not a RCRA listed hazardous waste and does not exhibit any characteristics of a hazardous waste, including toxicity (by EPA TCLP method).

DISPOSAL METHOD: This product is generally suited for landfill disposal. Follow all applicable Federal, State, and local laws, rules, and regulations regarding the proper disposal of this material. If this product has been altered or contaminated with other hazardous materials, appropriate waste analysis may be necessary to determine proper disposal method. A qualified environmental professional should determine waste characterization, disposal, and treatment methods for this material in accordance with applicable Federal, State, and local regulations and requirements.

Handling and Storing Precautions:

Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with skin and eyes. Store in a cool, dry area. Keep container closed when not in use. Segregate from products with which it can react including: hydrogen peroxide, calcium hypochlorite, and fluorine gas.

USDOT DATA:

This product is not regulated by USDOT as a hazardous material (49 CFR part 172.101). No UN code assigned. No placard required for transportation.

Other Precautions:

None

Section VIII: Control Measures

Engineering Controls:

If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limits listed in **Section 2**.

Eye Protection:

Corrosive to eyes. Wear protective safety goggles when dust generation is likely.

Skin Protection:

Wear clothing sufficient to cover the skin, safety shoes, and leather gloves for hand protection against dry material.

Respiratory Protection:

Use NIOSH/MSHA approved respiratory protection (air purifying or air supplying) when concentrations are above exposure limit value. A respiratory protection program that meets OSHA 29 CFR part 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator.

Work and Hygienic Practices:

Wash thoroughly after using product. Wash contaminated clothing. Wash hands before eating or drinking.

Section IX: Regulatory Data

COMPONENTS LISTED IN FEDERAL REGULATIONS AND STATE "RIGHT-TO-KNOW" LAWS:

COMPONENT	CAS #	FEDERAL					STATE (Right-to-Know)			
		RCRA	CERCLA	SARA	SARA EHS	TSCA	PA	NJ	MA	CA
Iron Oxide, Saccharated	8047-67-4	NO	NO	NO	NO	NO	NO	NO	NO	YES
Nonhazardous Ingredients / Inert Materials / Proprietary	N/A	NO	NO	NO	NO	NO	NO	NO	NO	NO
Quartz (SiO ₂)	14808-60-7	NO	NO	NO	NO	YES	YES	NO	YES	NO
Amorphous Silica	112926-00-8	NO	NO	NO	NO	NO	NO	NO	NO	NO

NOTES:

1. Listed as Compound per CAA Section 112
2. Listed as compound

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