kemira

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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**KLASP**
Synonyms:	Iron (III) Sulfate
Product Description:	Granulated and compounded Iron III hydrates
Molecular Formula:	$Fe_2(SO_4)_3.nH_2O$
Intended/Recommended Use:	Water treating chemical

KEMIRA WATER SOLUTIONS, INC., 316 BARTOW MUNICIPAL AIRPORT, BARTOW, FLORIDA 33830, USA
For Product Information call 1-800/879-6353. Outside the USA and Canada call 1-785/842-7424.
EMERGENCY PHONE: For emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 1-703/527-3887.

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

Component / CAS No.	% (w/w)	OSHA (PEL):	ACGIH (TLV)	Carcinogen
Ferric sulfate 10028-22-5	66 - 74 (dry weight: 69 - 77%)	1 mg/m^3 Fe (TWA)	0.1 mg/m^3 as persulfate (TWA) 1 mg/m^3 as Fe (TWA)	-

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR:

Color:	yellow-tannish-gray
Appearance:	granular
Odor:	slight

STATEMENTS OF HAZARD:

WARNING! HARMFUL IF SWALLOWED OR INHALED
IRRITATING TO EYES, SKIN, RESPIRATORY AND DIGESTIVE TRACTS

POTENTIAL HEALTH EFFECTS

EFFECTS OF EXPOSURE:
Refer to Section 11 for toxicology information on the regulated components of this product. Skin or eye contact with solutions of this product may cause moderate skin and eye irritation.

4. FIRST AID MEASURES

Ingestion:
Never give anything by mouth to an unconscious person. Obtain medical attention. Do not induce vomiting. Administer 250 - 300 ml water to dilute material in the stomach.

Skin Contact:
In case of skin contact, wash affected areas of skin with soap and water. If skin irritation persists, call a physician.

Eye Contact:
Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

Inhalation:
If breathing has stopped, trained personnel should administer artificial respiration. If the heart has stopped, trained personnel should administer cardio-pulmonary resuscitation. Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:
Use an extinguishing media appropriate for the surrounding fire. This material will not burn readily.

Protective Equipment:
Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection). Firefighters, and others exposed, wear self-contained breathing apparatus.

Special Hazards:
Keep unnecessary people away.

Mechanical/Static Sensitivity Statements:
None

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. Refer to Section 8 (Exposure Controls/Personal Protection) for appropriate personal protective equipment.

Methods For Cleaning Up:
Sweep up into containers for disposal. Dispose of contaminated material as prescribed

Environmental Precautions:
Use appropriate containment to avoid environmental contamination. Prevent water contaminated with this product from entering drains, sewers or streams, growng crops/keeping animal areas, and sites of native flora and fauna.

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7. HANDLING AND STORAGE

HANDLING

Precautionary Measures: Do not get in eyes. Handle with caution. Wash thoroughly after handling. See MSDS for details.

Special Handling Statements: Review the label, this MSDS and any other applicable information before use. Keep separated from incompatible substances. Use appropriate Personal Protective Equipment per Section 8. Handle only with equipment, materials and supplies specified by their manufacturer as being compatible and appropriate for use with this product.

STORAGE
Prevent material from coming in contact with common metals. Ensure that al storage vessels are labeled. Avoid skin and eye contact. Wear appropriate protective clothing. Store only in dry rubber-lined, plastic, FRP or stainless steel (304, 316). Keep storage temperatures between 10o and 30o C. Store away from incompatible materials such as alkalis. Keep smaller containers as drums and totes tightly closed when not in use or when empty. Product should be used within one year. Storage facilities should have secondary containment as required by law or regulation. Storage tanks, piping and offloading points should be labeled with appropriate signage to avoid accidents.
Containers of this material may be hazardous when empty, since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:
Engineering controls are not necessary if good hygiene practices are followed.

Respiratory Protection:
Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

Eye Protection:
Wear eye/face protection. Prevent eye and skin contact.

Skin Protection:
Wear suitable protective clothing.

Additional Advice:
Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	yellow-tannish-gray
Appearance:	granular
Odor:	slight
Boiling Point:	Not applicable
Melting Point:	>300 °C
Vapor Pressure:	Not applicable
Specific Gravity/Density:	3.1
Vapor Density:	Not available
Percent Volatile (% by wt.):	None
pH:	Not applicable
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Similar to water
Solubility In Water:	soluble
Volatile Organic Content:	Not available
Flash Point:	Not applicable
Flammable Limits (% By Vol):	Not applicable
Autoignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Partition coefficient (n-octanol/water):	Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

Odor Threshold: Not available

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions To Avoid: To avoid product degradation and equipment corrosion, do not use iron, copper, or aluminum containers or equipment. Avoid contact with strong acids or bases and excessive heat.

Polymerization: Will not occur

Conditions To Avoid: None known

Hazardous Decomposition Products: oxides of sulfur (includes sulfur di and tri oxides)

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION.
Toxicological information on the regulated components of this product is as follows:

Ferric Sulfate

Available TOXICOLOGICAL DATA:

LD50 (intraperitoneal mouse): 168 mg/kg

LD50 (oral, rat) = 500 mg/kg

Mutagenicity: Not available

Reproductive Effects: Not available

Teratogenicity and Fetotoxicity: Not available

Synergistic Materials: Not available

12. ECOLOGICAL INFORMATION

The test values shown for this product are actually the results for studies conducted on anhydrous ferric sulfate.

ALGAE TEST RESULTS

Test: Acute toxicity, freshwater

Duration: 7 day.
Species: Green Algae (Scenedesmus subspicatus)

10000 ug/l	Toxicity endpoint not reported.	Based on the anhydrous material. 1978 Journal: Egypt.J.Bot. 21(2):121-130

FISH TEST RESULTS

Test: Acute toxicity, freshwater
Duration: 24 hr. **Procedure:** Static.
Species: Mosquitofish (Gambusia affinis)

37,200 ug/l	LC50	Based on the anhydrous material. 1957 Journal: Sewage Ind.Wastes 29(6):695-711

Test: Acute toxicity, freshwater
Duration: 96 hr **Procedure:** Static
Species: Mosquitofish (Gambusia affinis)

37,200 ug/l	LC50	Based on the anhydrous material. 1957 Journal: Sewage Ind.Wastes 29(6):695-711

OTHER TEST RESULTS

Test: Acute toxicity, freshwater
Duration: 48 hr
Species: Rock Oyster (Saccostrea commercialis)

100 - 200 ug/l	NOEC	Based on the anhydrous material. 1997 Journal: Ectoxicol.Environ.Saf. 37:30-36

13. DISPOSAL CONSIDERATIONS

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA `listed hazardous waste`or has any of the four RCRA `hazardous waste characteristics.`Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA `listed hazardous waste`; information contained in Section 15 of this MSDS is not intended to indicate if the product is a `listed hazardous waste.`RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. Kemira encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. Kemira recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. Kemira has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

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14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

US DOT

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Packing Group: III
UN/ID Number: UN3077
Transport Label Required: Class 9
Technical Name (N.O.S.): Contains ferric sulfate
Hazardous Substances:

Component / CAS No.	Reportable Quantity of Product (lbs)
Ferric sulfate	~1299 lbs. (Ferric Sulfate RQ = 1000 lbs)

Comments: Hazardous Substances/Reportable Quantities - DOT requirements specific to Hazardous Substances only apply if the quantity in one package equals or exceeds the reportable quantity.

TRANSPORT CANADA

Proper Shipping Name: Not applicable/Not regulated

ICAO / IATA

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Packing Group: III
UN Number: UN3077
Packing Instructions/Maximum Net Quantity Per Package:
Passenger Aircraft: No Limit
Cargo Aircraft: No Limit
Technical Name (N.O.S.): Contains ferric sulfate

IMO

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
UN Number: UN3077
Packing Group: III

Technical Name (N.O.S.): Contains ferric sulfate

15. REGULATORY INFORMATION

INVENTORY INFORMATION

United States (USA): This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq.

Canada: Components of this product have been reported to Environment Canada in accordance with Sections 66 and/or 81 of the Canadian Environmental Protection Act (1999), and are included on the Domestic Substances List.

European Union (EU): All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments.

OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

Component / CAS No.	%	TPQ (lbs)	RQ(lbs)	S313	TSCA 12B
Ferric sulfate 10028-22-5	66 - 74 (dry weight: 69 - 77%)	None	1000	No	No

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute

16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)

Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

Fire: 0 - Materials that will not burn.

Reactivity: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

Reasons For Issue: Revised Section 9