

Ferox Plus

MATERIAL SAFETY DATA SHEET

According to OSHA and ANSI

Reviewed on 5/1/2013

1. Identification of Substance

Trade Name: Ferox Plus

Supplier: Hepure Technologies, Inc.
63 Main Street, Suite 203B
Flemington, NJ 08822

Emergency Information: 908-510-3835 Dr. Robert Kelley

2. Composition/Data on Components

Ingredient	CAS #	Weight%	Hazardous
Food grade edible soy bean oil	8001-22-7	30-40%	No
Iron	7439-89-6	10-40%	No
Emulsifiers, thickeners, and proprietary nutrient package containing nitrogen, phosphorus and vitamin B₁₂	Mixture	3 - 6%	No
Sodium Lactate	867-56-1	2 - 4%	Yes
Water	7732-18-5	10 - 55%	No

3. Hazards Identification

Hazard Description:

Information pertaining to particular dangers for man and environment



R 36/37 Irritating to eyes and respiratory system.

4. First Aid Measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing

Seek immediate medical advice.

Information for doctor

The following symptoms may occur: Nausea, Cramp, Gastric or intestinal disorders

5. Fire Fighting Measures

Suitable extinguishing agents: Extinguishing powder, dry chemical, sand, or graphite to smother fire. Use water only in mist/fog application to avoid spreading power/acclimated dust in surrounding area.

For safety reasons unsuitable extinguishing agents: Water, Carbon dioxide, Halogenated extinguisher

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6. Accidental Release Measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources.

Measures for cleaning/collecting:
Ensure adequate ventilation.
Keep away from ignition sources.

Additional information:
See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for disposal information.

7. Handling and Storage

Handling

Information for safe handling:
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:
Keep ignition sources away.

Storage

Requirements to be met by storerooms and receptacles:
No special requirements.

Information about storage in one common facility:
Do not store together with oxidizing and acidic materials.
Store away from halogens.
Further information about storage containers:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

8. Exposure Controls and Personal Protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace: None required.

Additional Information: No data

Personal protective equipment

General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages, and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Breathing Equipment: Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection: Safety glasses, full face protection.

Body protection: Protective work clothing.

9. Physical and Chemical Properties

Form: Viscous Liquid

Color: Grey

Odor: Odorless

Change in condition

Melting point / Melting range: - 20° C

Boiling point / Boiling range: >300° C

Sublimation temperature / start: Not determined

Flash point: >250° C

Ignition temperature: Not determined

Decomposition temperature: Not determined

Explosion limits:

Lower: Not determined

Upper: Not determined

Vapor pressure at 20° C: 1 mm Hg

Density at 20° C (68° F): 1.44 g/cc

Solubility in / Miscibility with water: Insoluble

10. Stability and Reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Acids, Water / moisture, Oxidizing agents, Halogens

Reacts with strong oxidizing agents

Dangerous products of decomposition: Metal oxide fume

11. Toxicological Information

Acute toxicity:

LD / LC50 values that are relevant for classification:		
Oral	LD50	20000 mg/kg (gpg) 30000 mg/kg (rat)
	LDLo	20 mg/kg (rbt)

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Other information (about experimental toxicity):

Tumorigenic effects have been observed with laboratory animals.

Subacute to chronic toxicity:

Iron compounds may cause vomiting, diarrhea, pink urine, black stool, and liver damage.

May cause damage to the kidneys. Irritating to the respiratory tract, they may cause pulmonary fibrosis if dusts are inhaled.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA, or ACGIH.

12. Ecological Information

General notes:

Do not allow material to be released to the environment without proper governmental permits.

13. Disposal Considerations

Product:

Recommendation:

Consult state, local or national regulations for proper disposal.

Uncleaned Packagings:

Recommendation:

Disposal must be made according to official regulations.

14. Transport Information

Shipping Information:

Not regulated as a hazardous material by DOT, IMO, or IATO.

Proper shipping-name (technical name): Emulsified Zero Valent Iron

15. Regulations

Product related hazard information:

Hazard symbols:

IX Irritant

Risk phrases:

36 / 37 Irritating to eyes and respiratory system.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

Information about limitation of use:

For use only by technically qualified individuals.

16. Other Information

Employees should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the healthy and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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