



MATERIAL SAFETY DATA SHEET

Ferro Corporation
Electronic Material System
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Emergency telephone number
CHEMTREC: 1-800-424-9300

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: Phoenix
Synonyms: Aqueous slurry.
CAS-No.: Mixture

Date of Preparation: 10/03/06

2. HAZARD IDENTIFICATION

Emergency Overview

Caution
May cause eye/skin irritation. Avoid contact with the skin and the eyes.

NFPA 704

Colour:	white	Health:	1
Physical state:	Slurry	Fire:	0
Odour:	Odorless	Instability:	0

Potential Health Effects

Principle routes of exposure: Eye contact. Skin contact.

Eye contact: May cause slight irritation.

Skin contact: Prolonged skin contact may cause skin irritation and/or dermatitis.

Inhalation: Breathing of mists, vapors, or fumes may irritate the nose, throat and lungs.

Ingestion: May irritate digestive tract.

Chronic toxicity: Repeated or prolonged exposure to the substance can produce lung damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
Aluminum oxide	1344-28-1	10 - 20%
Aluminum Nitrate	7784-27-2	1 - 5%

The specific chemical identities are being withheld as a trade secret (29CFR1910.1200).

4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops.

Skin contact: Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms persist, call a physician.

Ingestion: Drink plenty of water. Consult a physician if necessary. Do not induce vomiting without medical advice.

Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: Non combustible

Suitable extinguishing media: Use dry chemical, CO₂, water spray or "alcohol" foam.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

Unusual hazards: Dust may form explosive mixture in air.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Evacuate area of all unnecessary personnel. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dispose of promptly. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

Storage: Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit(s):

Components	OSHA	ACGIH
Aluminum oxide	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	10 mg/m ³ TWA
Aluminum Nitrate	Not established	2 mg/m ³ TWA (as Al)

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Eye protection: Safety glasses with side-shields.

Skin and body protection: Lightweight protective clothing.

Hand protection: Impervious gloves.

Respiratory protection: Use NIOSH approved respirator when ventilation is inadequate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour:	white	Physical state:	Slurry
Odour:	Odorless	Molecular weight:	No data available
Boiling point/range (°C):	101.	pH:	3.6
Freezing point/range (°C):	0.0	Specific gravity (Water =1):	1.200
Vapor pressure (mmHg):	No data available	Evaporation rate (Water =1):	No data available
Water solubility (mg/l):	Insoluble	VOC content (%)	No data available

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Polymerization: Will not occur.

Hazardous decomposition products: None under normal use.

Materials to avoid: Strong oxidizing agents.

Conditions to avoid: None known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

No data is available on the product itself.

Carcinogenic effects:

Not listed by IARC, NTP or OSHA as a carcinogen.

Aluminum oxide

ACGIH - Carcinogens: A4 - Not Classifiable as a Human Carcinogen

Aluminum Nitrate

NIOSH - LD50s and LC50s: = 3671 mg/kg Oral LD50 Rat
= 3980 mg/kg Oral LD50 Mouse

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration.

12. ECOLOGICAL INFORMATION

No data is available on the product itself.

Aquatic toxicity: Not determined

Persistence and degradability: Not determined

14. TRANSPORT INFORMATION

DOT

Proper shipping name: Not regulated.

TDG (Canada)

Proper shipping name: Not regulated.

15. REGULATORY INFORMATION

U.S. Regulations:

Not subject to TSCA 12(b) Export Notification

Components	SARA 313:
Aluminum Nitrate (1 - 5%)	Nitrate compounds (water dissociable; reportable only when in aqueous solution) (1.0)

State Regulations

This product or its ingredients have been evaluated for New Jersey, Pennsylvania, and California Prop 65 supplier notification requirements. Substances that are subject to notification requirements, if any, are listed below.

Components	NJRTK:	PARTK:	Cal Prop65:
Aluminum oxide	sn 2891	Listed	N/A
Aluminum Nitrate	N/A	N/A	N/A

Canadian WHMIS

WHMIS hazard class: D2B Toxic materials.

Components

Aluminum oxide

WHMIS Ingredient Disclosure:

1%

International Inventories

TSCA 8(b): Listed or exempt.
 Canadian DSL: Listed or exempt.
 EINECS: Listed or exempt.
 Phillipines (PICCS): Not listed.
 Japan (ENCS): Not listed.
 Korea (KECL): Listed.
 China (IECS): Listed.
 Australia (AICS): Listed.

16. OTHER INFORMATION

For Industrial Use Only

HMIS

Health: 1

Fire: 0

Physical hazard: 0

PPE: X

Prepared by: Ferro Technical Center

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

End of Safety Data Sheet

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