



SAFETY DATA SHEET

1. Identification

Product identifier Fedtun
Recommended use For Industrial Use Only
Recommended restrictions Basic dry mix, for the working lining of steel continuous casting tundish

Manufacturer/Supplier information

Company name: FRC Global
Address: 1000 N. West St.
Suite 1200 #3008
Wilmington, DE 19801
Product Support/Technical Services
Phone: (514) 931-5711
Website www.FRCglobal.com

Emergency telephone number: Corporate Office: (514) 931-5711
Technical Services: (514) 931-5711
Contact E-Mail: LadleDr@FRCglobal.com

2. Hazard(s) identification

This product is not classified according to the Globally Harmonized System (GHS).

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements None.
Signal word Not applicable.
Hazard Statement Not applicable.
Precautionary statement Not applicable.
Hazard(s) not otherwise Classified (HNOC) None Known.

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Description: Mixture of the substances listed below with nonhazardous additions

| Chemical Name | Common Name/Synonyms | CAS Number | % |
|-----------------|----------------------|------------|---|
| Magnesium Oxide | | 1309-48-4 | * |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

General information No special measures are required.
After inhalation Supply fresh air; consult a doctor in case of complaints.
After skin contact Generally the product does not irritate the skin.
After eye contact Rinse opened eye for several minutes under running water.
After swallowing If symptoms persist consult the doctor.

Information for doctor

Most important symptoms and effects both acute and delayed:

No further relevant information available.

Indication of any immediate medical attention and special treatment needed:

No further relevant information is available.

5. Fire-fighting measures

Suitable extinguishing agents Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture

No further relevant information is available.

Special protective equipment and precautions for firefighters

No special measures are required.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Pick up mechanically.

See section 7 for information on safe handling.

See section 13 for disposal information.

Environmental precautions

Do not allow to enter sewers, surface, or groundwater.

Protective Action Criteria for Chemicals

| | | |
|---------------|-----------------|--------------------------|
| <i>PAC-1</i> | | |
| CAS 1309-48-4 | Magnesium Oxide | 30 mg/m ³ |
| <hr/> | | |
| <i>PAC-2</i> | | |
| CAS 1309-48-4 | Magnesium Oxide | 120 mg/m ³ |
| <hr/> | | |
| <i>PAC-3</i> | | |
| CAS 1309-48-4 | Magnesium Oxide | 730 mg/m ³ |

7. Handling and storage

Precautions for safe handling No special measures are required.

Information about protection against explosions and fires

No special measures are required.

Conditions for safe storage, including any incompatibilities

Store in dry conditions.

8. Exposure controls/personal protection

Occupational exposure limits

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| <i>Components</i> | <i>Type</i> | <i>Value</i> | <i>Form</i> |
|------------------------------------|-------------|----------------------|-------------------------|
| Magnesium Oxide (CAS 1309-48-4) | PEL | 15 mg/m ³ | Fume; total particulate |
| Magnesium Oxide (CAS 1309-48-4) | TLV | 10mg/m ³ | As inhalable fraction |

Exposure controls

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses

Body protection

Protective work clothing

Skin protection

Hand protection

The glove material has to be impermeable and resistant to the product/the substance/the preparation. Due to missing tests, no recommendation for the glove material can be given for the product/the preparation/the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion, and degradation.

Material of gloves

The selection of suitable gloves does not only depend on the material but also further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked before the application.

Penetration time of glove material

The exact breakthrough time must be found out by the manufacturer of the protective gloves and has to be observed.

Respiratory protection

A Suitable respiratory protective device is recommended.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary



General Hygiene Considerations

The usual precautionary measures for handling chemicals should be followed.

9. Physical and chemical properties

Appearance

Physical state

Solid.

Form

Powder.

Color

Beige.

Odor

Odorless.

Odor threshold

Not available.

pH

Not available.

| | |
|--|--|
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | Not available. |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Auto-igniting | Product is not self-igniting. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Danger of explosion | Product does not present an explosion hazard. |
| Vapor pressure | Not available. |
| Density at 20 °C (68 °F) | 1.1 g/cm ³ (9.18 lbs./gal) (bulk density) |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Insoluble. |
| Solvent content | |
| VOC content | 0.00 % |
| Solids content | 100.0 % |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | No further relevant information is available. |
| Chemical stability | |
| Possibility of hazardous reactions | No dangerous reactions are known. |
| Thermal decomposition/conditions to avoid | No decomposition if used according to specifications. No further relevant information is available. |
| Incompatible materials | No further relevant information is available. |
| Hazardous decomposition products | No dangerous decomposition products are known. |

11. Toxicological information

| | |
|--|-----------------------|
| Information on likely routes of exposure | |
| Skin contact | No irritating effect. |
| Eye contact | No irritating effect. |

Sensitization No sensitizing effects are known.

Additional toxicological information

The product is not subject to classification according to internally approved calculation methods for preparation. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12. Ecological information

Aquatic toxicity No further relevant information is available.

Persistence and degradability No further relevant information is available.

Bio-accumulative potential No further relevant information is available.

Mobility in soil No further relevant information is available.

Additional ecological information

General notes Water hazard class 1 (self-assessment): slightly hazardous for water
Do not allow undiluted products or large quantities of them to reach groundwater, watercourse, or sewage systems.

Results of PBT and vPvB assessment

PBT Not applicable

vPvB Not applicable

Other adverse effects No further relevant information is available.

13. Disposal considerations

Disposal instructions Waste can be transported to an approved landfill.

Hazardous waste code Not applicable.

Waste from residues / unused products Not available.

Contaminated packaging Disposal must be made according to official regulations.

14. Transport information

DOT Not regulated as dangerous goods.

IATA Not regulated as dangerous goods.

IMDG Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

Environment hazard Not applicable.

Special precautions for user Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

One or more components are not listed on TSCA.
All chemical substances in this product are listed on the
TSCA chemical substance inventory where required.

TSCA Toxic Substances Control Act

1309-48-4 Magnesium oxide

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 355 Extremely Hazardous Substances

Not listed.

SARA 313 Specific Toxic Chemical Listings

Not listed.

US OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Chemicals known to cause reproductive toxicity in females

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity in males

None of the ingredients is listed.

Carcinogenic categories

EPA

None of the ingredients is listed.

TLV Threshold Limit Value established by ACGIH

1309-48-4

Magnesium oxide A4

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not Regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US Massachusetts RTK - Substance List

Not listed.

US New Jersey Worker and Community Right-to-Know Act

Not listed.

US Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US Rhode Island RTK

Not listed.

16. Other information, including date of preparation or last revision

This information is supplied to be informative and to alert the user of the material. The ultimate compliance with federal, state, and/or local regulations concerning the use of this material, or compliance with respect to product liability, rests solely upon the purchaser thereof.

Prepared by: FRC Global

Date: September 2021

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End of Safety Data Sheet