

# SAFETY DATA SHEET

**Product Trade Name:**  
**Micromax FF**

**Revision Date:**  
03-Dec-2018

**Revision Number:**  
3

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

### Product Identifier

**Product Trade Name:**

Micromax FF

**Synonyms**

None

**Chemical Family**

Mineral

**Internal ID Code**

HM520147

**Recommended use and restrictions on use**

**Application**

Weight Additive

**Uses advised against**

No information available

**Manufacturer's Name and Contact Details**

**Manufacturer/Supplier**

Elkem Materials

P.O. Box 266

Pittsburgh, PA 15230

Telephone: +1-412-299-7200

**Additional Information**

**Prepared By**

Chemical Stewardship

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**Emergency Telephone Number**

1-760-476-3959

Global Incident Response Access Code: 334305

Contract Number: 14012

## 2. HAZARDS IDENTIFICATION

### Classification

Specific Target Organ Toxicity - (Repeated Exposure)

Category 2 - H373

**Hazard Pictograms****Signal Word**

Warning

**Hazard Statements**

H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

**Response**

P314 - Get medical attention/advice if you feel unwell

**Storage**

None

**Disposal**

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains****Substances**

Manganese tetraoxide

**CAS Number**

1317-35-7

**Additional Information**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Substances           | CAS Number | PERCENT (w/w) | GHS Classification |
|----------------------|------------|---------------|--------------------|
| Manganese tetraoxide | 1317-35-7  | 60 - 100%     | STOT RE 2 (H373)   |

**4. FIRST AID MEASURES****First-aid Measures****Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Skin**

Wash with soap and water. Get medical attention if irritation persists.

**Eyes**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Ingestion**

Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Most important symptoms and effects, both acute and delayed**

May cause damage to organs through prolonged or repeated exposure.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Not Applicable

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media

All standard fire fighting media

### Extinguishing media which must not be used for safety reasons

None known.

### Specific hazards arising from the chemical

Not determined

### Special protective actions for fire-fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

### Environmental Precautions

Prevent from entering sewers, waterways, or low areas.

### Methods and material for containment and cleaning up

Scoop up and remove.

### Additional Information

See Section 8 and 13 for additional information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry location. Product has a shelf life of 24 months.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

| Substances           | CAS Number | United Arab Emirates | Bahrain        | Kuwait         | Gulf Cooperation Council   |
|----------------------|------------|----------------------|----------------|----------------|----------------------------|
| Manganese tetraoxide | 1317-35-7  | Not applicable       | Not applicable | Not applicable | TWA: 0.2 mg/m <sup>3</sup> |

### Appropriate engineering controls

Use in a well ventilated area. Localized ventilation should be used to control dust levels.

### Individual protection measures, such as personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

#### **Respiratory Protection**

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product.

Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Normal work gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Safety glasses.

**Other Precautions**

None known.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Physical State:**

Solid

**Color**

Red brown

**Odor:**

Odorless

**Odor Threshold:**

No information available

**pH:**

7-10

**Specific Gravity**

4.8

**Freezing Point/Range (°C):**

1550 - 1650

**Pour Point/Range (C):**

No information available

**Boiling Point/Range (C):**

1650

**Flash Point/Range (°C):**

No information available

**Flash Point Method:**

Not determined

**Flammability Limits in Air - Lower (%):**

No information available

**Flammability Limits in Air - Upper (%):**

No information available

**Autoignition Temperature (°C):**

No information available

**Evaporation Rate (Butyl Acetate=1):**

No information available

**Vapor Pressure @ 20 C (mmHg):**

No information available

**Vapor Density (Air=1):**

No information available

**Water Solubility**

Insoluble in water

**Decomposition Temperature (C):**

No information available

**Viscosity, Dynamic @ 20 C (centipoise):**

No information available

**Viscosity, Kinematic @ 20 C (centistokes):**

No information available

**Partition Coefficient/n-Octanol/Water:**

No information available

**Molecular Weight (g/mole):**

No information available

**10. STABILITY AND REACTIVITY**

**Reactivity**

Not expected to be reactive.

**Chemical Stability**

Stable

**Possibility of hazardous reactions**

Will Not Occur

**Conditions to Avoid**

Avoid contact with hydrochloric acid. Can react to release chlorine gas.

**Incompatible materials**

None known.

**Hazardous decomposition products**

None known.

**Additional Guidelines**

Not Applicable

**11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity****Inhalation**

May cause respiratory irritation.

**Eye Contact**

May cause mechanical irritation to eye.

**Skin Contact**

May cause mechanical skin irritation.

**Ingestion**

May cause abdominal pain, vomiting, nausea, and diarrhea. May cause hypoglycemia.

**Chronic Effects/Carcinogenicity**

Prolonged or repeated exposure may cause central nervous system and brain effects. Prolonged or repeated exposure may result in manganism. Symptoms are similar to Parkinson's disease.

**Toxicology data for the components**

| Substances           | CAS Number | LD50 Oral          | LD50 Dermal       | LC50 Inhalation             |
|----------------------|------------|--------------------|-------------------|-----------------------------|
| Manganese tetraoxide | 1317-35-7  | > 2000 mg/kg (Rat) | No data available | >5.17 mg/L (rat, 4 h, dust) |

| Substances           | CAS Number | Skin corrosion/irritation           |
|----------------------|------------|-------------------------------------|
| Manganese tetraoxide | 1317-35-7  | Non-irritating to the skin (Rabbit) |

| Substances           | CAS Number | Serious eye damage/irritation      |
|----------------------|------------|------------------------------------|
| Manganese tetraoxide | 1317-35-7  | Non-irritating to the eye (Rabbit) |

| Substances           | CAS Number | Skin Sensitization       |
|----------------------|------------|--------------------------|
| Manganese tetraoxide | 1317-35-7  | No information available |

| Substances           | CAS Number | Respiratory Sensitization |
|----------------------|------------|---------------------------|
| Manganese tetraoxide | 1317-35-7  | No information available  |

| Substances           | CAS Number | Mutagenic Effects   |
|----------------------|------------|---|
| Manganese tetraoxide | 1317-35-7  | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances) |

| Substances           | CAS Number | Carcinogenic Effects          |
|----------------------|------------|-------------------------------|
| Manganese tetraoxide | 1317-35-7  | Not regarded as carcinogenic. |

| Substances           | CAS Number | Reproductive toxicity                        |
|----------------------|------------|--|
| Manganese tetraoxide | 1317-35-7  | No data of sufficient quality are available. |

| Substances           | CAS Number | STOT - single exposure  |
|----------------------|------------|---|
| Manganese tetraoxide | 1317-35-7  | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances           | CAS Number | STOT - repeated exposure  |
|----------------------|------------|---|
| Manganese tetraoxide | 1317-35-7  | Causes damage to organs through prolonged or repeated exposure if inhaled: Central Nervous System (CNS) |

| Substances           | CAS Number | Aspiration hazard        |
|----------------------|------------|--------------------------|
| Manganese tetraoxide | 1317-35-7  | No information available |

## 12. ECOLOGICAL INFORMATION

### Toxicity

| Substances           | CAS Number | Toxicity to Algae  | Toxicity to Fish  | Toxicity to Microorganisms   | Toxicity to Invertebrates   |
|----------------------|------------|--|---|--|---|
| Manganese tetraoxide | 1317-35-7  | EC50 (72h) > 100% saturated solution (Desmodesmus subspicatus) | LC50 (96h) > 100% saturated solution (orhynchus mykiss) | EC50 (3 h) > 1000 mg/L (activated sludge of a predominantly domestic sewage) | EC50 (48 h) > 0.022 mg/L (Daphnia magna)<br>NOAEC (21 d) > 100 mg/L (Daphnia magna) |

### Persistence and degradability

| Substances           | CAS Number | Persistence and Degradability  |
|----------------------|------------|--|
| Manganese tetraoxide | 1317-35-7  | The methods for determining biodegradability are not applicable to inorganic substances. |

### Bioaccumulation potential

| Substances           | CAS Number | Bioaccumulation          |
|----------------------|------------|--------------------------|
| Manganese tetraoxide | 1317-35-7  | No information available |

### Mobility in soil

| Substances           | CAS Number | Mobility                 |
|----------------------|------------|--------------------------|
| Manganese tetraoxide | 1317-35-7  | No information available |

### Other adverse effects

No information available

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### Disposal methods

Incineration recommended in approved incinerator according to federal, state, and local regulations.

#### Contaminated Packaging

Follow all applicable national or local regulations.

#### Other Information

No information available

## 14. TRANSPORT INFORMATION

### UN Number

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Not restricted

**UN proper shipping name:**

Not restricted

**Transport Hazard Class(es):**

Not applicable

**Packing Group:**

Not applicable

**Environmental Hazards:**

Not applicable

**Special Precautions for User**

None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**15. REGULATORY INFORMATION****Regulatory Information**

This SDS was prepared in accordance with United Nations "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)" and its revisions.

**16. OTHER INFORMATION****Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Revision Date:**

03-Dec-2018

**Revision Note**

Initial Release

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**End of Safety Data Sheet**