

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: FM69, FM53, FM4, FM94, FM14, FM16, FM51

1.2. Intended Use of the Product Flexible magnetic material.

1.3. Name, Address, and Telephone of the Responsible Party

Manufacturer

Arnold Magnetic Technologies

770 Linden Ave.

Rochester NY, 14625

800-593-9127

www.arnoldmagnetics.com

1.4. Emergency Telephone Number

Emergency Number : Within USA and Canada 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling

No labeling required

2.3. Other Hazards Under normal conditions of use and handling in the solid form, harmful substances cannot be released. Much of the information provided in this SDS is for situations of use in which hazardous exposures may occur, such as laser cutting or machining. In powdered form: Harmful to aquatic life with long lasting effects. Avoid release to the environment. Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.4. Unknown Acute Toxicity (GHS-US)

3.09 percent of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance Not applicable

3.2. Mixture

| Name | Product Identifier | % | Classification (GHS-US) |
|-----------------------------------|---------------------|---------------|--|
| Iron strontium oxide (Fe12SrO19) | (CAS No) 12023-91-5 | 64.65 - 89.18 | Not classified |
| Limestone | (CAS No) 1317-65-3 | <= 22.53 | Not classified |
| Silica, amorphous | (CAS No) 7631-86-9 | <= 0.62 | Not classified |
| Carbonic acid, calcium salt (1:1) | (CAS No) 471-34-1 | <= 0.52 | Not classified |
| Talc | (CAS No) 14807-96-6 | <= 0.5 | Comb. Dust |
| Zinc oxide | (CAS No) 1314-13-2 | <= 0.36 | Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Glass, oxide, chemicals | (CAS No) 65997-17-3 | <= 0.08 | Carc. 1B, H350 |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Under normal conditions of use not expected to present a significant hazard. During processing or physical alteration, flakes or powder cause irritation of the respiratory tract, eyes, skin, and are harmful. Molten material may release toxic, and irritating fumes.

Symptoms/Injuries After Inhalation: For particulates and dust: May cause respiratory irritation.

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Symptoms/Injuries After Skin Contact: For particulates and dust: May cause skin irritation.

Symptoms/Injuries After Eye Contact: For particulates and dust: May cause eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: None known.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Product is not flammable. Under fire conditions, hazardous fumes will be present.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions are not expected to occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not breathe fumes or vapors from fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not allow product to spread into the environment.

6.2. Environmental Precautions Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely.

6.4. Reference to Other Sections

See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Products: Fluorine. Magnesium. Acids.

7.3. Specific End Use(s)

Flexible magnetic material.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

| Talc (14807-96-6) | | |
|--|--------------------------------------|---|
| USA ACGIH | ACGIH TWA (mg/m ³) | 2 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction) |
| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen containing no asbestos fibers |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 2 mg/m ³ (containing no Asbestos and <1% Quartz-respirable dust) |
| USA IDLH | US IDLH (mg/m ³) | 1000 mg/m ³ (containing no asbestos and <1% quartz) |
| Carbonic acid, calcium salt (1:1) (471-34-1) | | |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| Glass, oxide, chemicals (65997-17-3) | | |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 3 fibers/cm ³ (fibers ≤3.5 μm in diameter & ≥10μm in length), TWA 5mg/m ³ (total) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ total dust, 5 mg/m ³ , respirable fraction 8 hr |

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| Zinc oxide (1314-13-2) | | |
|-------------------------------|--|--|
| USA ACGIH | ACGIH TWA (mg/m ³) | 2 mg/m ³ (respirable fraction) |
| USA ACGIH | ACGIH STEL (mg/m ³) | 10 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ (dust and fume) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 15 mg/m ³ (dust) |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| Silica, amorphous (7631-86-9) | | |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 6 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 20 mppcf (80mg/m ³ /%SiO ₂) |
| Limestone (1317-65-3) | | |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |

8.2. Exposure Controls

- Appropriate Engineering Controls** : Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
- Personal Protective Equipment** : Not generally required. The use of personal protective equipment may be necessary as conditions warrant.
- Materials for Protective Clothing** : For particulates and dust: Chemically resistant materials and fabrics.
- Hand Protection** : For particulates and dust: Wear chemically resistant protective gloves.
- Eye Protection** : For particulates and dust: Chemical safety goggles.
- Respiratory Protection** : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|--|--------------------------|
| Physical State | : Solid |
| Appearance | : Solid sheets and parts |
| Odor | : Odorless |
| Odor Threshold | : Odorless |
| pH | : N/A |
| Evaporation Rate | : N/A |
| Melting Point | : N/A |
| Freezing Point | : No Data Available |
| Boiling Point | : N/A |
| Flash Point | : N/A |
| Auto-ignition Temperature | : No Data Available |
| Decomposition Temperature | : No Data Available |
| Flammability (solid, gas) | : No |
| Vapor Pressure | : N/A |
| Relative Vapor Density at 20 °C | : N/A |
| Relative Density | : 3.6 (ASTM D-792) |
| Solubility | : Negligible |
| Partition Coefficient: N-Octanol/Water | : No Data Available |
| Viscosity | : N/A |

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions are not expected to occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** None known.
- 10.5. Incompatible Materials:** Oxidizers.

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10.6. Hazardous Decomposition Products: Thermal decomposition generates: Metal oxides. Chlorine gas.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

| | |
|---|---------------------------------|
| Carbonic acid, calcium salt (1:1) (471-34-1) | |
| LD50 Oral Rat | 6450 mg/kg |
| Zinc oxide (1314-13-2) | |
| LD50 Oral Rat | > 5000 mg/kg |
| LD50 Dermal Rat | > 2000 mg/kg |
| Silica, amorphous (7631-86-9) | |
| LD50 Oral Rat | > 5000 mg/kg |
| LD50 Dermal Rabbit | > 2000 mg/kg |
| LC50 Inhalation Rat | > 2.2 mg/l (Exposure time: 1 h) |

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

| | |
|--|--|
| Talc (14807-96-6) | |
| IARC group | 3 |
| National Toxicology Program (NTP) Status | Evidence of Carcinogenicity, Twelfth Report - Items under consideration. |
| Silica, amorphous (7631-86-9) | |
| IARC group | 3 |

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: For particulates and dust: May cause respiratory irritation.

Symptoms/Injuries After Skin Contact: For particulates and dust: May cause skin irritation.

Symptoms/Injuries After Eye Contact: For particulates and dust: May cause eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

| | |
|--------------------------------------|--|
| Talc (14807-96-6) | |
| LC50 Fish 1 | > 100 g/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static]) |
| Zinc oxide (1314-13-2) | |
| LC50 Fish 1 | 780 µg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.122 mg/l |
| NOEC chronic fish | 0.026 mg/l (Species: Jordanella floridae) |
| Silica, amorphous (7631-86-9) | |
| LC50 Fish 1 | 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |
| EC50 Daphnia 1 | 7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia) |

12.2. Persistence and Degradability Not established

12.3. Bioaccumulative Potential

| | |
|---|-------------------------------|
| Talc (14807-96-6) | |
| BCF fish 1 | (no known bioaccumulation) |
| Carbonic acid, calcium salt (1:1) (471-34-1) | |
| BCF fish 1 | (no bioaccumulation) |
| Silica, amorphous (7631-86-9) | |
| BCF fish 1 | (no bioaccumulation expected) |

12.4. Mobility in Soil No additional information available

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12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Iron strontium oxide (Fe12SrO19) (12023-91-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Talc (14807-96-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Carbonic acid, calcium salt (1:1) (471-34-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Glass, oxide, chemicals (65997-17-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Zinc oxide (1314-13-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Silica, amorphous (7631-86-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Limestone (1317-65-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2 US State Regulations

Talc (14807-96-6)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Zinc oxide (1314-13-2)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Silica, amorphous (7631-86-9)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Limestone (1317-65-3)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/07/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|-------------------|--|
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Carc. 1B | Carcinogenicity Category 1B |

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| | |
|------------|--|
| Comb. Dust | Combustible Dust |
| Comb. Dust | May form combustible dust concentrations in air |
| H350 | May cause cancer |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)