# FR-106

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.
Issue date: 9/10/2015 Revision date: 11/3/2022 Supersedes: 11/16/2021 Version: 2.1

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture
Product name : FR-106

### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fire Retarded Polyamide Powder for Sintering

### 1.3. Supplier

**Manufacturer**
Advanced Laser Materials, LLC.
3115 Lucius McCelvey Dr
Temple, Texas, 76504
USA
T (254) 773-3080 M-F, 8:00 a.m. – 5:00 p.m.
Life_Cycle_NA@eos-na.com

### 1.4. Emergency telephone number

CHEMTREC 1-800-424-9300

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS US classification**

Comb. Dust — May form combustible dust concentrations in air

### 2.2. GHS Label elements, including precautionary statements

**GHS US labeling**

Signal word (GHS US) : Warning
Hazard statements (GHS US) : May form combustible dust concentrations in air

### 2.3. Other hazards which do not result in classification

Not applicable

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Dust may cause respiratory tract irritation.

Symptoms/effects after skin contact : Dust may cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### 4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Powder, water spray, foam, carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Combustible dust. Products of combustion may include, and are not limited to: oxides of carbon. Oxides of nitrogen. Hydrogen bromide. Hydrogen cyanide. Ammonia.

Explosion hazard : Airborne dust in sufficient concentrations when confined and exposed to a sufficient ignition source can explode.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Avoid generating dust.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Eliminate sources of ignition. Use only non-sparking tools.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain spill, then place in a suitable container. Minimize dust generation. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Vacuum or sweep material and place in a disposal container. Avoid dust formation. Provide ventilation.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from sources of ignition. - No smoking. Avoid contact with skin and eyes. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Ensure adequate ventilation. Avoid generating and breathing dust. Good housekeeping is important to prevent accumulation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Use non-sparking tools. Take precautionary measures against static discharge.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from sources of ignition. Keep out of the reach of children. Keep container tightly closed. Store in dust-tight, dry, labelled containers. Avoid any dust buildup by frequent cleaning and suitable construction of the storage area. Keep in a cool, well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| FR-106 |
|---|
| No additional information available |

| Particulates not otherwise regulated (PNOR) and Particulates not otherwise classified (PNOC) | |
|---|---|
| **USA - ACGIH - Occupational Exposure Limits** | |
| ACGIH OEL TWA | 10 mg/m³ (inhalable particles) |
| ACGIH OEL TWA | 3 mg/m³ (respirable particles) |
| **USA - OSHA - Occupational Exposure Limits** | |
| OSHA PEL TWA | 15 mg/m³ (total dust) |
| OSHA PEL TWA | 5 mg/m³ (respirable fraction) |

Additional information : Not applicable

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e, there is not leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

**Personal protective equipment:**
Avoid all unnecessary exposure.

| **Hand protection:** |
|---|
| None necessary under normal conditions of use. Wear gloves if handling large quantities. |

| **Eye protection:** |
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| Safety glasses or goggles are recommended when using product. |

| **Skin and body protection:** |
|---|
| Wear suitable protective clothing |

| **Respiratory protection:** |
|---|
| A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2). |

**Thermal hazard protection:**
Use personal protective equipment as required.

**Other information:**
Handle in accordance with good industrial hygiene and safety procedures. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Solid |
| Appearance | : | Powder |
| Color | : | White |
| Odor | : | Odorless |
| Odor threshold | : | No data available |
| pH | : | Not applicable |
| Melting point | : | > 80 °C (> 176°F) |
| Freezing point | : | No data available |
| Boiling point | : | Not applicable |
| Flash point | : | Not applicable |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Flammability (solid, gas) | : | Combustible Dust. |
| Vapor pressure | : | Not applicable |
| Vapor pressure at 50°C | : | Not applicable |
| Relative vapor density at 20°C | : | Not applicable |
| Relative density | : | 1 – 1.2 g/cc |
| Solubility | : | Negligible. |

| | | |
|---|---|---|
| Partition coefficient n-octanol/water | : | No data available |
| Auto-ignition temperature | : | Not applicable |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | Not applicable |
| Viscosity, dynamic | : | No data available |
| Explosion limits | : | Not applicable |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |

### 9.2. Other information

| | | |
|---|---|---|
| Minimum ignition energy | : | 82 mJ |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2. Chemical stability

Stable under normal storage conditions. Keep dry in storage. May form combustible dust concentrations in air.

### 10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4. Conditions to avoid

Heat. Ignition sources. Moisture. Incompatible materials. Avoid dust formation.

### 10.5. Incompatible materials

Acids. Strong oxidizing agents.

### 10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Oxides of nitrogen. Hydrogen bromide. Hydrogen cyanide. Ammonia.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

| | | |
|---|---|---|
| Acute toxicity (oral) | : | Not classified |
| Acute toxicity (dermal) | : | Not classified |
| Acute toxicity (inhalation) | : | Not classified |
| Skin corrosion/irritation | : | Not classified<br>pH: Not applicable |
| Serious eye damage/irritation | : | Not classified<br>pH: Not applicable |
| Respiratory or skin sensitization | : | Not classified |
| Germ cell mutagenicity | : | Not classified |
| Carcinogenicity | : | Not classified |
| Reproductive toxicity | : | Not classified |
| STOT-single exposure | : | Not classified |
| STOT-repeated exposure | : | Not classified |
| Aspiration hazard | : | Not classified |
| Viscosity, kinematic | : | Not applicable |
| Symptoms/effects after inhalation | : | Dust may cause respiratory tract irritation. |

Symptoms/effects after skin contact : Dust may cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact : Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

### 12.2. Persistence and degradability

| FR-106 | |
|---|---|
| Persistence and degradability | No information available. |

### 12.3. Bioaccumulative potential

| FR-106 | |
|---|---|
| Bioaccumulative potential | No information available. |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. The generation of waste should be avoided or minimized wherever possible. Recover and recycle product if possible.

## SECTION 14: Transport information

In accordance with DOT

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

### 14.3. Transport hazard class(es)

**DOT**
Transport hazard class(es) (DOT) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

### 15.2. International regulations

No additional information available

### 15.3. US State regulations

⚠ **WARNING:** This product can expose you to Hydrazine, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

## SECTION 16: Other information

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

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Other information : Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

| **Full text of H-phrases** | |
|---|---|
| Comb. Dust | Combustible Dust |

| **Indication of changes:** |
|---|
| 2.0 - SDS update<br>2.1 - SDS update |

Safety Data Sheet (SDS), USA